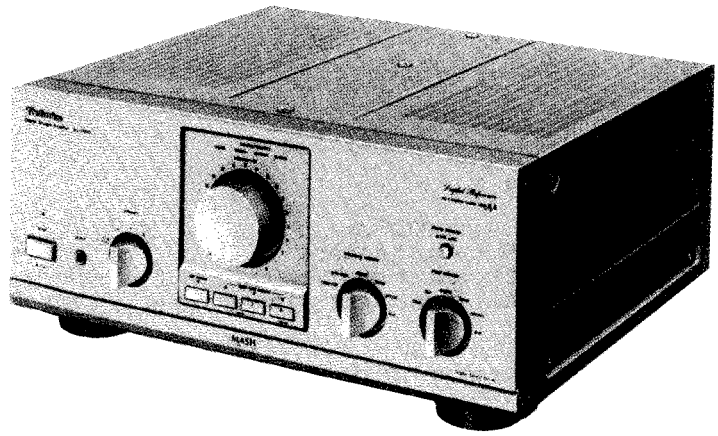
ORDER NO. AD9007211C2

Service Manual

Amplifier

Digital Straight Amplifier

SU-MA10



Color

(A) ... Gold Type

Area

Country Code	Area	Color
(E)	Continental Europe.	(A)
(EB)	Great Britain.	
(EG)	F.R. Germany and Italy.	

SPECIFICATIONS (DIN 45 500)

■ MAIN AMP. SECTION

20 Hz~20 kHz continuous power output	
both channels driven	2×100 W (8Ω)
	2×140 W (4Ω)
1 kHz continuous power output	
both channels driven (THD: 1%)	2×110 W (8Ω)
	2×160 W (4Ω)
63 Hz~12.5 kHz continuous power output	
both channels driven (0.7%)	2×105 W (8Ω)
	2×145 W (4Ω)
Total harmonic distortion (Input: Aux)	
rated power at 20 Hz~20 kHz	0.005% (8Ω)
	0.007% (4Ω)
half power at 20 Hz~20 kHz	0.003% (8Ω)
Inter modulation distortion	
rated power at 50 Hz:7 kHz=4:1, SMPTE	0.005% (8Ω)
Residual hum and noise	0.9 mV
Damping factor	110 (8Ω), 55 (4Ω)
Headphones output level and impedance	680 mV/330Ω
Load impedance	
A or B, bi-wiring	4Ω~16Ω
A and B	8Ω~16Ω

■ PRE AMP. SECTION

Input sensitivity and impedance	
PHONO MM	2.5 mV/47 kΩ
PHONO MC	250 μV/220Ω
TUNER, AUX, DAT, TAPE	150 mV/22 kΩ
Phono maximum input voltage (IHF '66, 1 kHz, RMS)	
MM	160 mV
MC	15 mV
S/N	
rated power (4Ω)	
PHONO MM	79 dB (IHF '66: 88 dB)
PHONO MC	70 dB (IHF '66: 72 dB)
TUNER, AUX, DAT, TAPE	92 dB (IHF '66: 104 dB)
−26 dB power (4Ω)	
PHONO MM	72 dB
PHONO MC	67 dB
TUNER, AUX, DAT, TAPE	75 dB
50 mW power (4Ω)	
PHONO MM	65 dB
PHONO MC	63 dB
TUNER, AUX, DAT, TAPE	66 dB
Frequency response	
PHONO	RIAA standard curve
	±0.2 dB (20 Hz~20 kHz)
TUNER, AUX, DAT, TAPE	0.8 Hz~120 kHz (+0, −3 dB)
	+0 dB, −0.2 dB (20 Hz~20 kHz)
Output voltage	
DAT, TAPE, REC OUT	150 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX 1 kHz	55 dB

■ Digital Section (fs=44.1 kHz, EIAJ-D)

Harmonic distortion (1 kHz)	0.005%
Frequency Response	+0.3 dB, −0.3 dB (2 Hz~20 kHz)

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

■ GENERAL

Power consumption	920 W
Power supply	
For Continental Europe and Germany	AC 50Hz/60Hz, 220V
For Great Britain	AC 50Hz/60Hz, 240V
Dimensions (W×H×D)	430×186×433 mm (16 15/16"×7 5/16"×17 1/16")
Weight	25 kg (55 lb.)

Notes:
1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

•MASH is a trademark of NTT.

■ CONTENTS

	Page
BEFORE PEPAIR	2
PROTECTION CIRCUITRY	2
ACCESSORY	2
FRONT PANEL CONTROLS AND FUNCTIONS	3
CONNECTIONS	4 ~ 6
FEATURES	7
DISASSEMBLY INSTRUCTIONS	7 ~ 14
MEASURMENTS AND ADJUSTMENTS	15, 16
TERMINAL FUNCTION OF IC'S	16, 17
BLOCK DIAGRAM	17 ~ 20
SCHEMATIC DIAGRAM	21 ~ 29
PRINTED CIRCUIT BOARDS	30 ~ 36
WIRING CONNECTION DIAGRAM	37
TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES	38
EXPLODED VIEW	39 ~ 41
REPLACEMENT PARTS LIST	42 ~ 46
RESISTORS & CAPACITORS	47 ~ 49
PACKING	50

■ BEFORE REPAIR

(1) Turn off the power supply. Using a 10Ω, 5W resistor connect both ends of power supply capacitors (C551A, C552A, 12000μF) in order to discharge the voltage.

(2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50Hz/60Hz in NO SIGNAL mode should be shown below with respect to supply voltage 220V/240V.

Power supply voltage	AC220V	AC240V
Consumed current 50Hz	140 ~ 400mA	130 ~ 360mA
Consumed current 60Hz	120 ~ 350mA	110 ~ 320mA

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:
- •No sound is heard when the power is switched ON. (The power indicator will not change from green to red.)
- •Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", if speaker systems with an impedance less than the indicated rated impedance of this unit are used, or if DC voltage appears in the output.

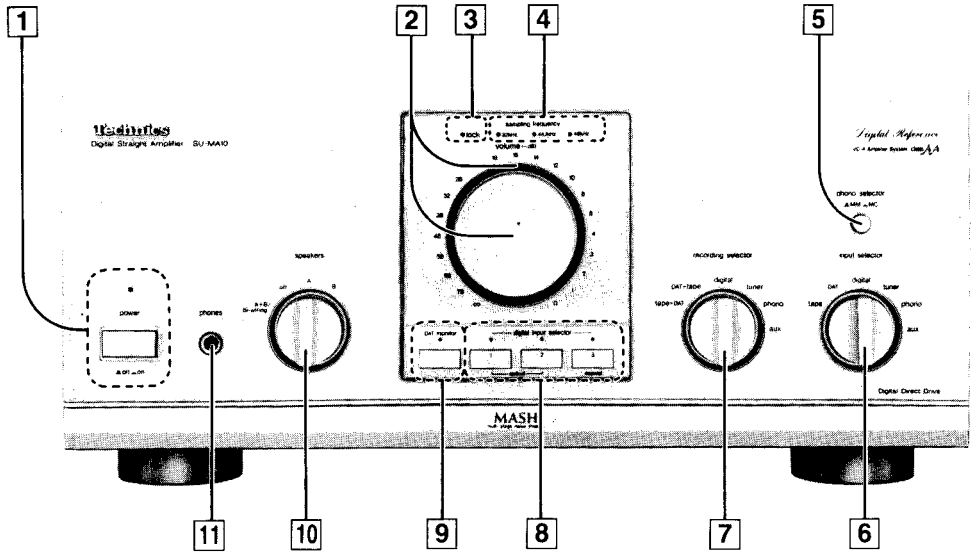
If this occurs, follow the procedure outlined below:
1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

■ ACCESSORY

- •AC power supply cord 1
  SFDAC05E03 ..... (E), (EG)
  SJA193 ..... (EB)

■ FRONT PANEL CONTROLS AND FUNCTIONS



1 Power switch/indicator (power)

When the power is turned on, the green indicator lights, and after about 4 seconds it changes to red to indicate that the unit can now be operated.
The protection circuit is activated and the indicator will not change to red when trouble in the circuitry, such as a short-circuit in the "+" and "−" speaker cords or a DC voltage generated in the output, has been detected.

2 Volume control/indicator (volume)

There are two types of volume scale indications: one for when the input selector is set for an analog position and one for when it is digital position (indicator will illuminate.).

3 Lock indicator (lock)

Indicates that a digital signal is being received and that the amplifier is in operational status.

4 Sampling frequency indicators (sampling frequency)

The appropriate indicator will illuminate whenever a digital signal with one of the sampling frequencies listed below is detected at the "DIGITAL INPUT" (①~③) or "DAT" digital terminal on the rear panel of this unit.
Note that some digital components (compact disc players, etc.) emit digital signals whenever their power switches are ON.

32 kHz: For digital signals with the 32-kHz mode sampling frequency
44.1 kHz: CD and others
48 kHz: For digital signals with the 48-kHz mode sampling frequency

5 Phono cartridge selector (phono selector)

This selector should be set to the position which corresponds to the type of cartridge used on the turntable.

6 Input selector (input selector)

This selector is used to select the sound source to be heard, such as a disc, radio broadcast, etc.

7 Recording output selector (recording selector)

This selector is used to select the sound source to be recorded by the connected tape deck and/or DAT.

8 Digital input selectors/indicators (digital input selector)

These selectors are used when a component connected to one of the "DIGITAL INPUT" (①~③) terminals (on the rear panel of this unit) is to be used as the sound source.
First set the main input selector to the "digital" position and then use the digital input selector to select the digital sound source. (The corresponding indicator will illuminate.)

9 DAT monitor switch/indicator (DAT monitor)

This is used for monitoring when playing back a tape in the DAT component connected to the "DAT" digital terminals (on the rear panel of the unit) or when digitally recording material onto a DAT tape from a digital component.

10 Speaker selector (speakers)

This selector is used to select the speaker systems to be used.

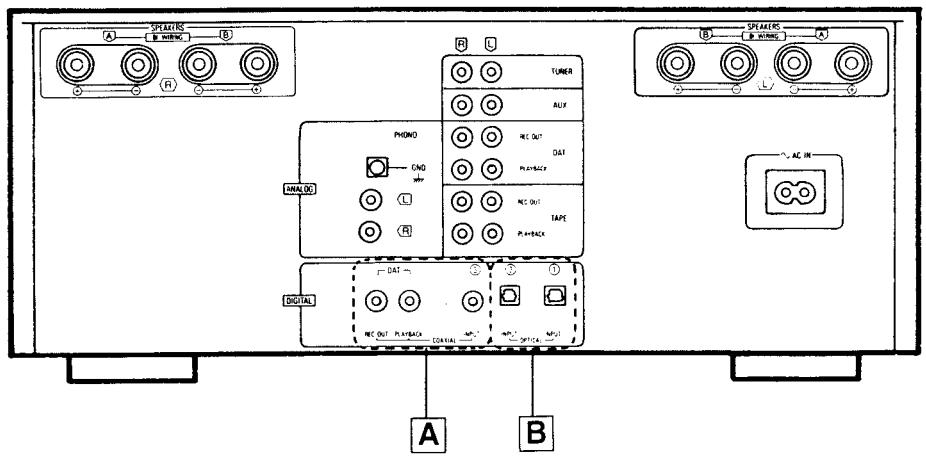
off: No sound will be heard from the speaker systems.
A: Sound can be heard from the speaker systems connected to the "A" terminals.
B: Sound can be heard from the speaker systems connected to the "B" terminals.
A+B/bi-wiring: Sound can be heard simultaneously from the speaker systems connected to the "A" terminals and the "B" terminals.
Or, if bi-wired speaker systems are connected, sound can be heard from them.

11 Headphones jack (phones)

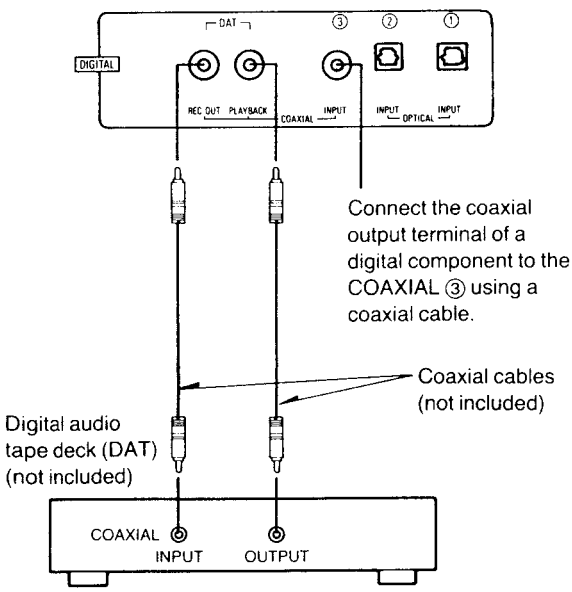
■ CONNECTIONS

Making connections to the digital terminals

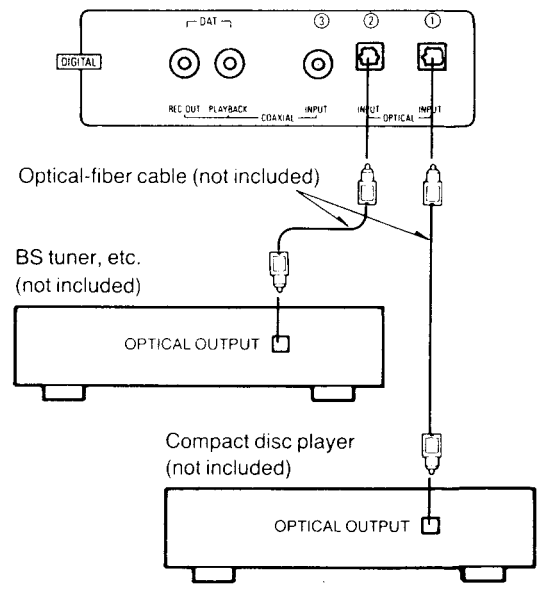
Components equipped with digital output facilities can be connected to the amplifier by optical-fiber cable (optional) or coaxial cable (optional). Optical fiber cables may be connected to the OPTICAL ① and ② terminals and coaxial cables to the COAXIAL ③ and DAT terminals.



A Making connections to the coaxial terminals



B Making connections to the optical terminals



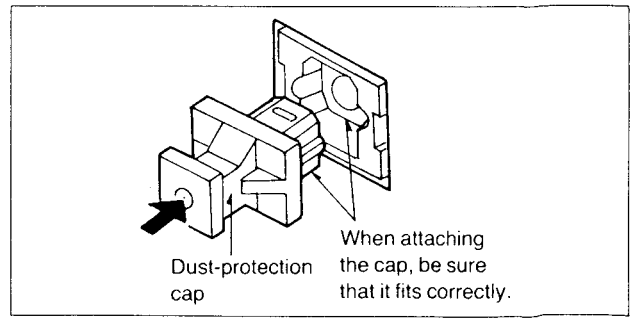
■ Notes

Careful note should be taken of the following points. If these points are not heeded, a malfunction of the unit's operation could occur.

1. Coaxial cables must absolutely never be connected to the analog terminals.
2. Only digital-type components should be connected to the digital terminals.
3. Optical-fiber cables must absolutely never be bent.

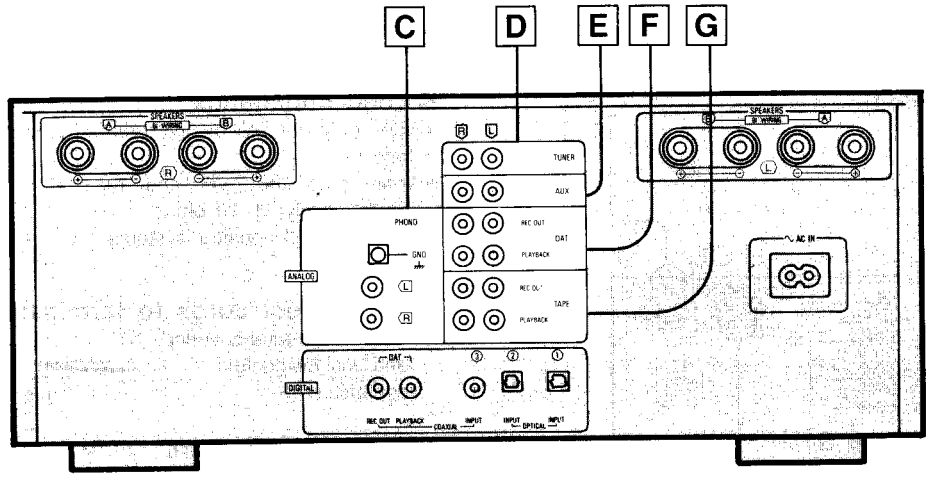
■ Use of "OPTICAL" terminals of this unit

These terminals are protected by the dust-protection caps to avoid damage by dust, etc.
Remove the caps only when "OPTICAL" terminals are to be used. When these terminals are not being used, attach the caps as shown in the illustration at the right.



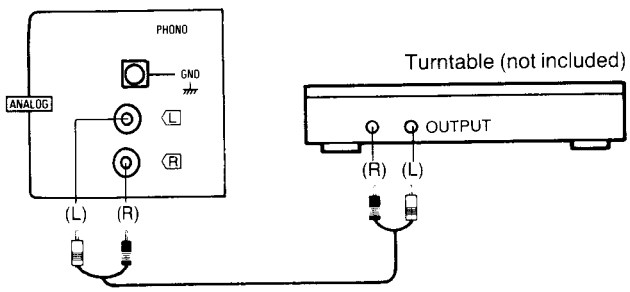
Making connections to the analog terminals

Make connections to each component in the system by using stereo connection cables (not included).



C "PHONO" terminals

Connect a turntable.



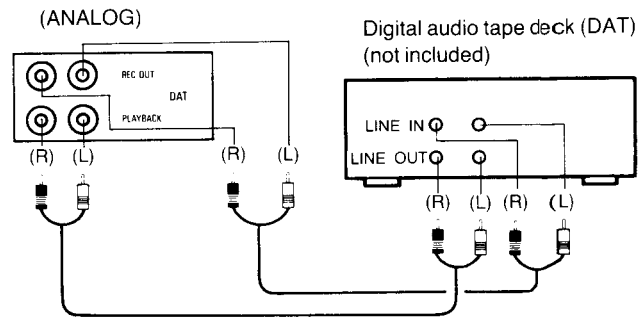
■ **"GND" terminal**

This terminal is for use with a turntable which has a ground wire.

* Phono input capacitance is about 270pF for (EG) area (about 100pF for other areas.).

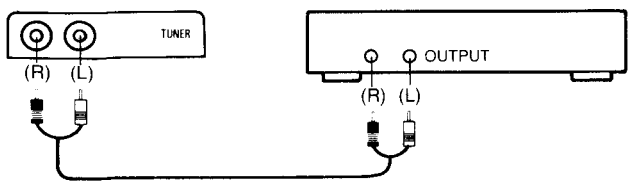
F "DAT" terminals (ANALOG)

Connect a digital audio tape deck (DAT).



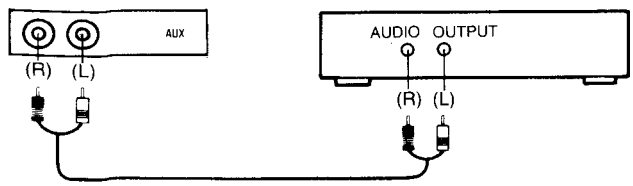
D "TUNER" terminals

Connect a tuner.



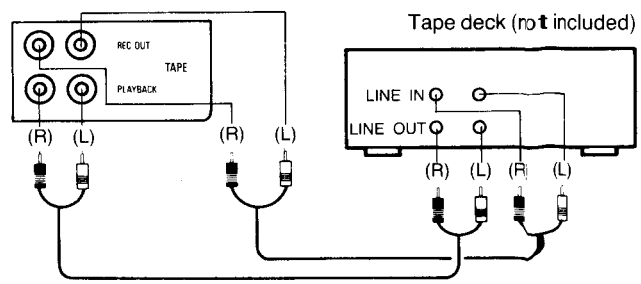
E "AUX" terminals

Connect a video disc player (Only the audio is connectable), etc.



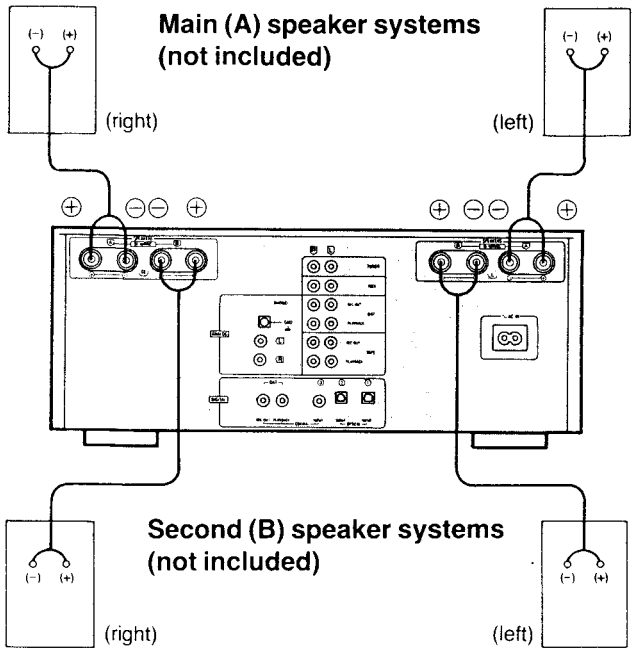
G "TAPE" terminals

Connect a tape deck.

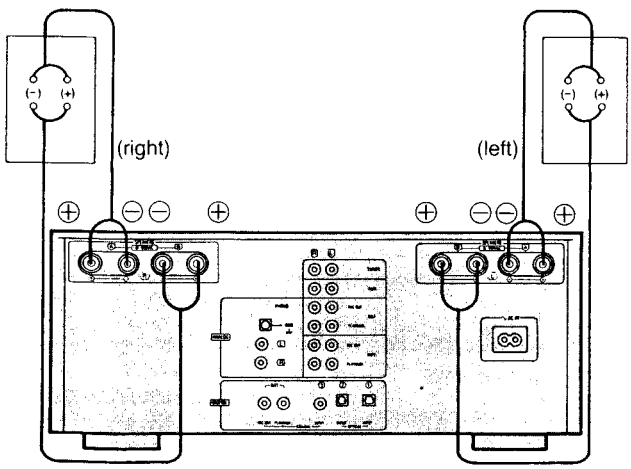


Connection to speaker systems

To connect main and/or second speaker systems



To connect bi-wired speaker systems



Note: Connect only bi-wired speaker systems in this way.

One pair of speaker systems can be connected to the "A" terminals of this unit and one pair to the "B" terminals, or only one pair of bi-wired speaker systems can be connected to all terminals.

■ Load impedance

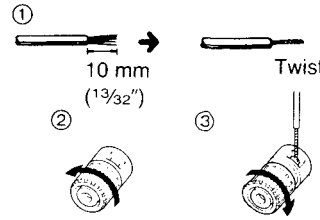
- When only the "A" or only the "B" terminals are used: 4–16 ohms
- When both the "A" and the "B" terminals are used simultaneously: 8–16 ohms
- When bi-wired speaker systems are used: 4–16 ohms

■ To connect cords to terminals

① Strip off the outer covering, and twist the center conductor.

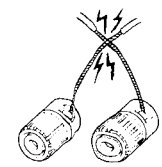
② Turn completely to the left.

③ Insert the wire and turn completely to the right. Pull the wire to assure a proper connection.



Note: Be sure to only connect positive (+) cords to positive (+) terminals, and negative (−) cords to negative (−) terminals.

Note:
To prevent damage to circuitry, never short-circuit the plus (+) and minus (−) speaker cords.

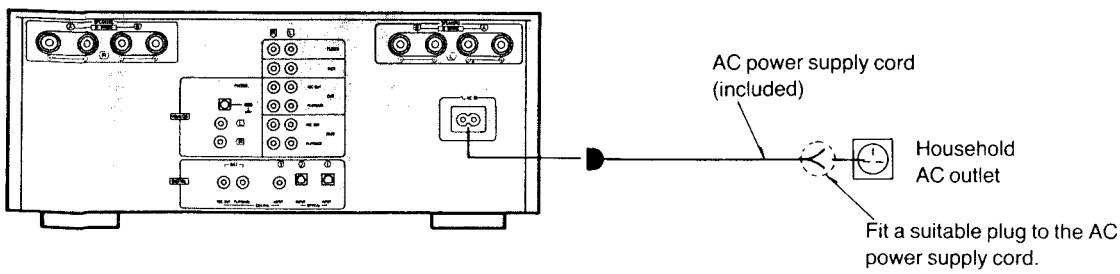


■ Bi-wiring

The treble range and the bass range of the speaker systems are connected to the speaker terminals of the amplifier by using two speaker connection wires separately for each.
As a result of making connections in this way, sound can be reproduced with much greater nuance and detail, with the feelings of air oscillation and deepness of sound provided by an input source that suppresses reciprocal band-range interference.
(Refer to the operating instructions of the speaker system.)

To connect the AC power supply cord (included)

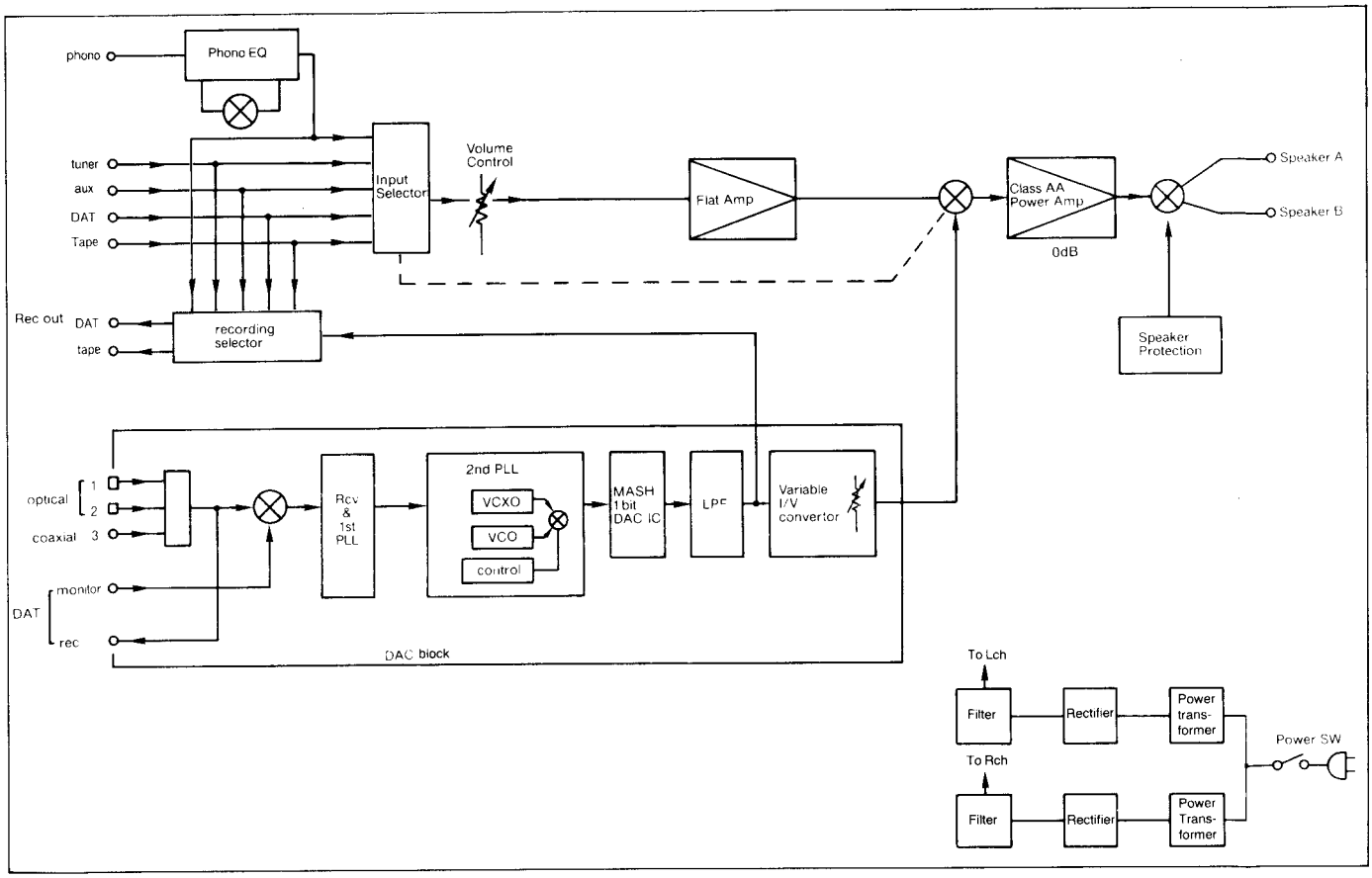
Connect the AC power supply cord (included) after all other cables and cords are connected.



■ FEATURES

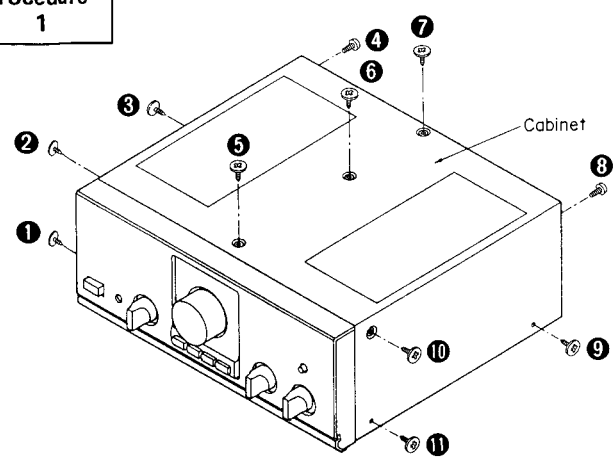
The SU-MA10 digital straight amplifier boasts the following features.

① D.D.D. (Digital Direct Drive) allows reproduction of digital source signals with no loss in quality.
② Newly developed 2-mode, 2-PLL digital interface receiver reduces jitter related distortion.
③ Power amp block with dual mono construction.
④ Design features such as highly rigid separate chassis effectively kill vibrations.
⑤ Strictly selected audio specification parts including newly developed X-pro twin-capacitors.



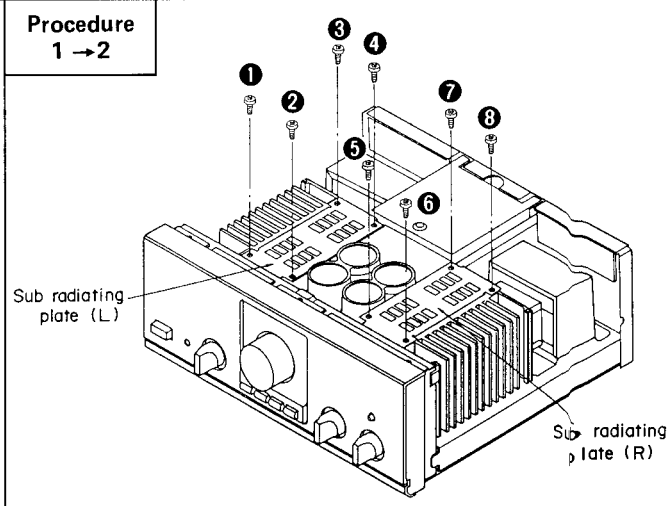
■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	Removal of the cabinet.
Procedure 1	



●Remove the 11 screws (❶ ~ ⓫).

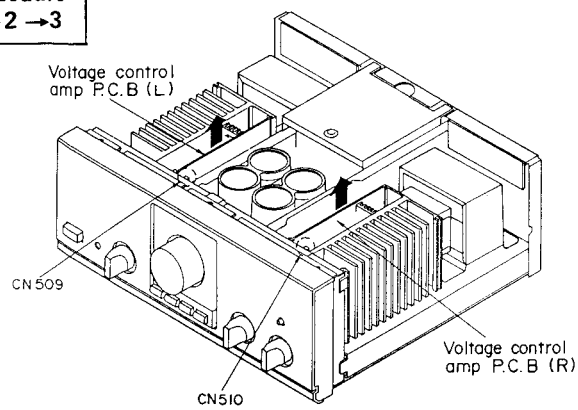
Ref. No. 2	Removal of the sub radiating plate (L), (R)
Procedure 1 →2	



●Remove the 8 screws (❶ ~ ❽).

Ref. No. 3	Removal of the voltage control amp P.C.B. (L), (R).

Procedure 1 →2 →3

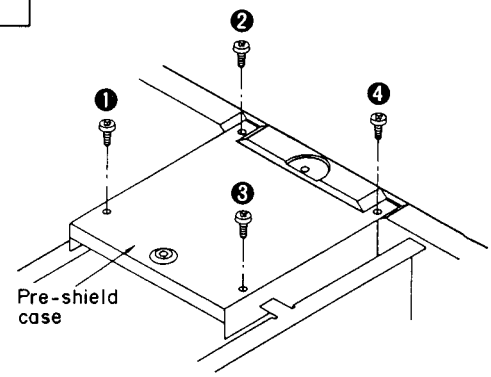


1. Remove the 2 connector (CN509, CN510).
2. Pull out the P.C.B. (Lch, Rch) in the direction of the arrow.

Note:
Take care the connectors, and remove the P.C.B.

Ref. No. 4	Removal of the pre-shield case.

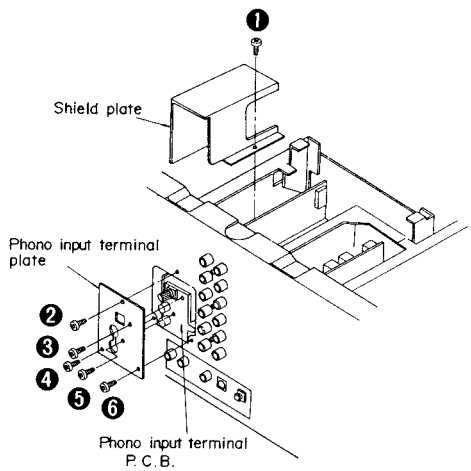
Procedure 1 →4



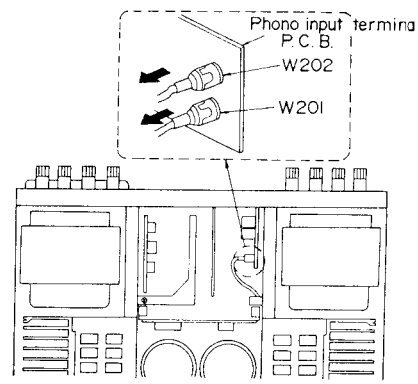
1. Remove the 4 screws (❶ ~ ❹).
2. Lift the pre-shield case and remove it.

Ref. No. 5	Removal of the phono input terminal P.C.B.

Procedure 1 →4 →5



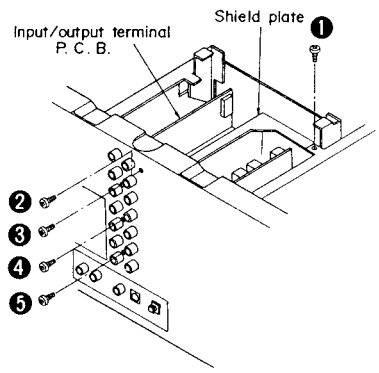
1. Remove the 6 screws (❶ ~ ❻)
2. Remove the phono input terminal plate.
3. Remove the shield plate.



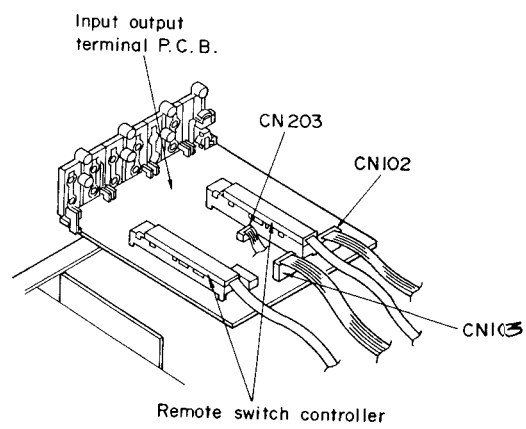
4. Remove the coaxial cable (W201, W202)

Ref. No. 6	Removal of the input/output terminal P.C.B.

Procedure 1 →4 →6



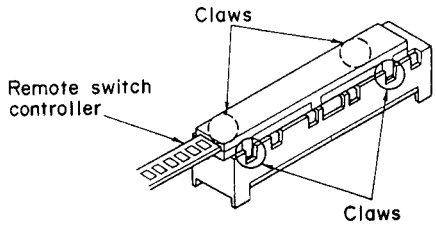
1. Remove the 5 screws (❶ ~ ❺).
2. Remove the shield plate.



3. Remove the 3 connectors (CN102, CN103, CN203).
4. Remove the remote switch controller.

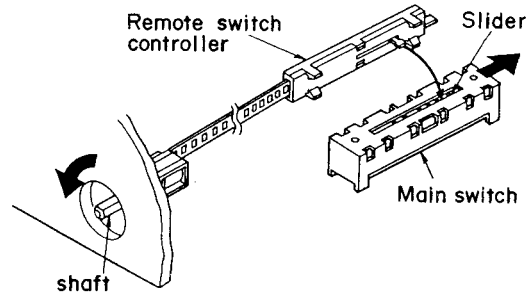
■ **Removal of the remote switch controller.**

- Release the 4 claws of remote switch controller by used ⊖ screwdriver.

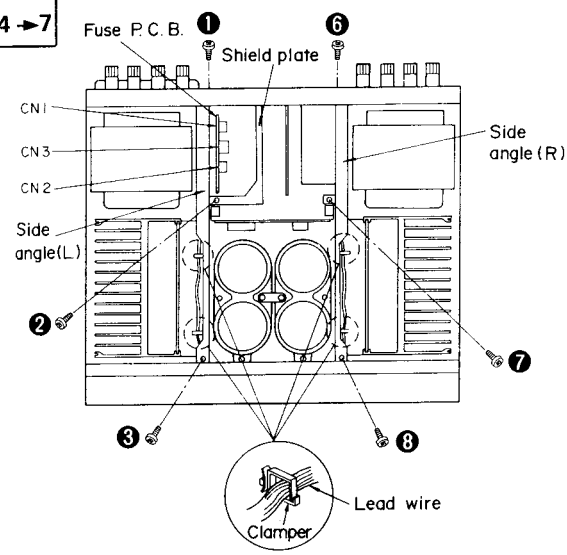


■ **Installation of the remote switch controller.**

1. Turn the shaft to the end in the direction of the arrow.
2. Slide the slider of the main switch as far as it will go in the direction of the arrow, and then mount the remote switch controller.



Ref. No. 7	Removal of the side angle (L), (R) and fuse P.C.B.
Procedure 1 →2 →4 →7	

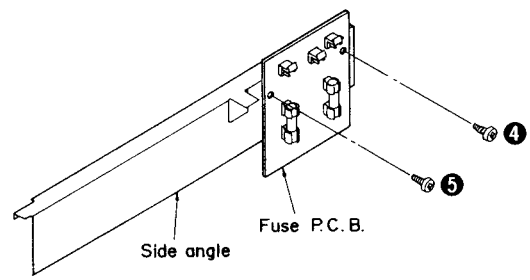


■ **Removal of the side angle (L) and fuse P.C.B.**

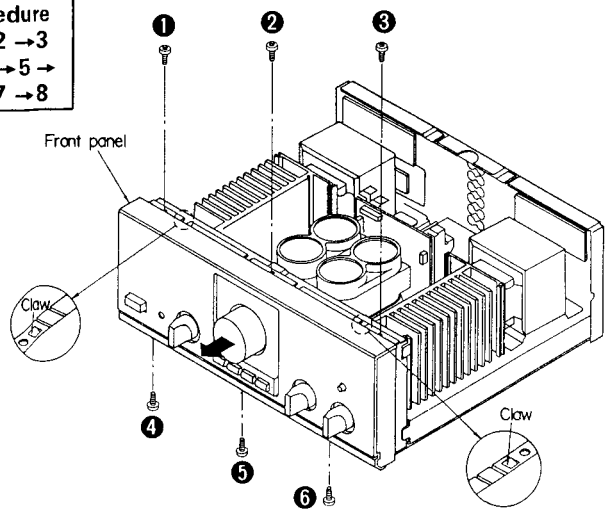
1. Remove the 3 connectors (CN1, CN2, CN3)
2. Remove the shield plate.
3. Remove the 3 screws (❶ ~ ❸).
4. Remove the lead wire from clamper.
5. Remove the side angle (L) and fuse P.C.B.
6. Remove the 2 screws (❹, ❺), and remove the fuse P.C.B.

■ **Removal of the side angle (R).**

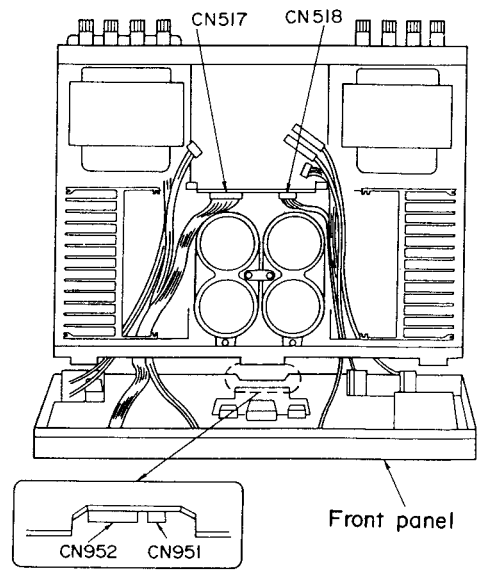
1. Remove the 3 screws (❻ ~ ❽).



Ref. No. 8	Removal of the front panel
Procedure 1 →2 →3 →4 →5 → 6 →7 →8	



1. Remove the 6 screws (❶ ~ ❻)
2. Release the 2 claws, and remove the front panel in the direction of the arrow.

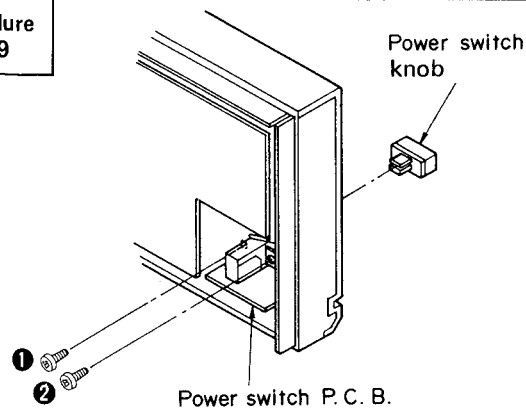


3. Remove the 4 connectors (CN517, CN518, CN951, CN952).

Note :
Take care the connectors, and remove the front panel.

Ref. No. 9	Removal of the power switch P.C.B.

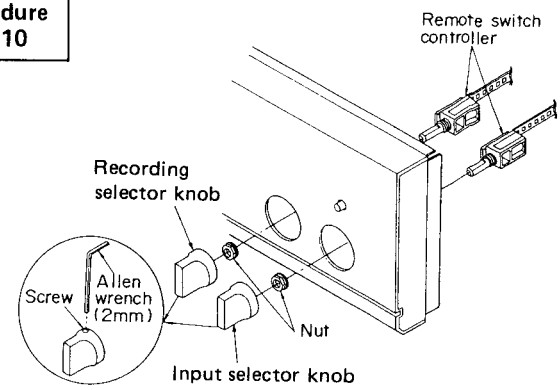
Procedure 8 →9



1. Remove the power switch knob by pushing it from behind the front panel.
2. Remove the 2 screws (❶, ❷).

Ref. No. 10	Removal of the remote switch controller

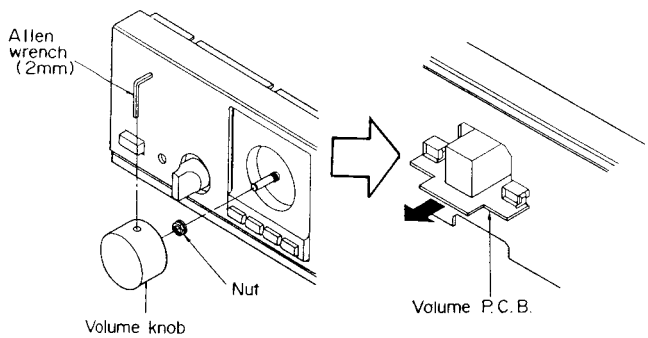
Procedure 8 →10



1. Loosen the screws set in the input selector knob and recording selector knob by using a allen wrench and remove the knob.
2. Remove the 2 nuts.

Ref. No. 11	Removal of the volume P.C.B.

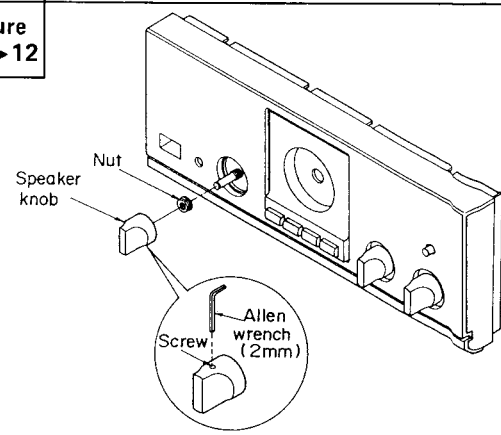
Procedure 8 →11



1. Loosen the screw set in the volume knob by using a allen wrench and remove the knob.
2. Remove the 1 nut.
3. Remove the volume P.C.B. in the direction of the arrow.

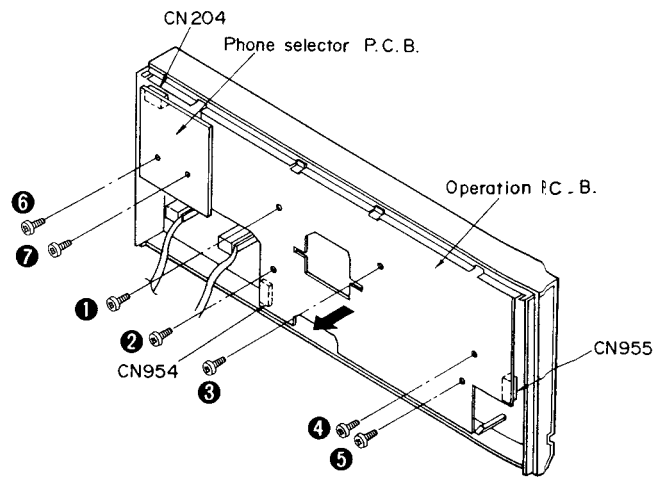
Ref. No. 12	Removal of the operation P.C.B. and phono selector P.C.B.

Procedure 8 →11 →12



■ **Removal of the operation P.C.B.**

1. Loosen the screw set in the speaker knob by using a allen wrench and remove the knob.
2. Remove the 1 nut.



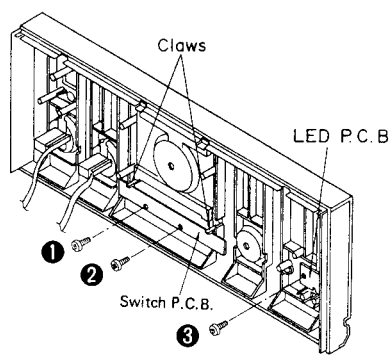
3. Remove the 5 screws (❶ ~ ❺).
4. Take care the connector (CN954, CN955), and remove the operation P.C.B. in the direction of the arrow.

■ **Removal of the phono selector P.C.B.**

1. Remove the 2 screws (❻, ❼).
2. Remove the 1 connector (CN204).

Ref. No. 13	Removal of the switch P.C.B. and LED P.C.B.

Procedure 8 →11 →12 →13



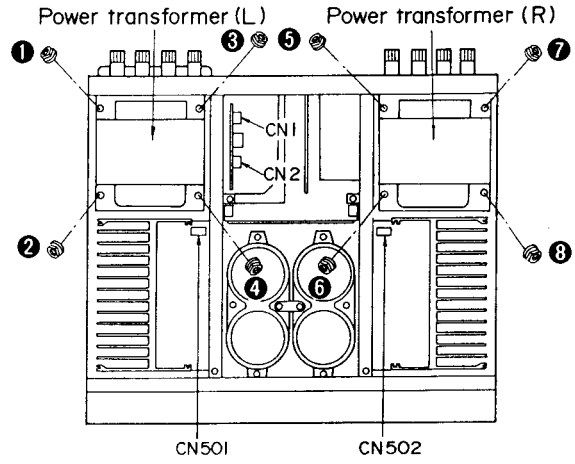
■ **Removal of the switch P.C.B.**

1. Remove the 2 screws (❶, ❷).
2. Release the 2 claws

■ **Removal of the LED P.C.B.**

1. Remove the 1 screw.(❸).

Ref. No. 14	Removal of the power transformer (L), (R)
Procedure 1 →2 →3 →4 →14	



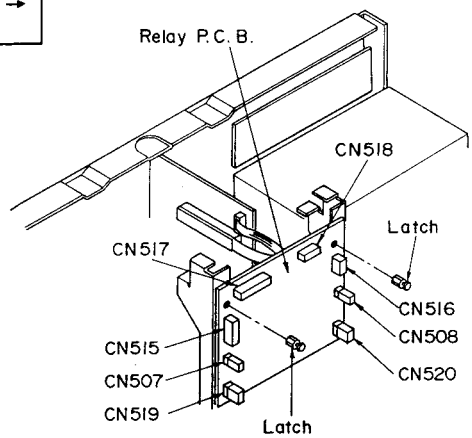
■ **Removal of the power transformer (L)**

1. Remove the 2 connectors (CN1, CN501).
2. Remove the 4 nuts (❶ ~ ❹).

■ **Removal of the power transformer (R)**

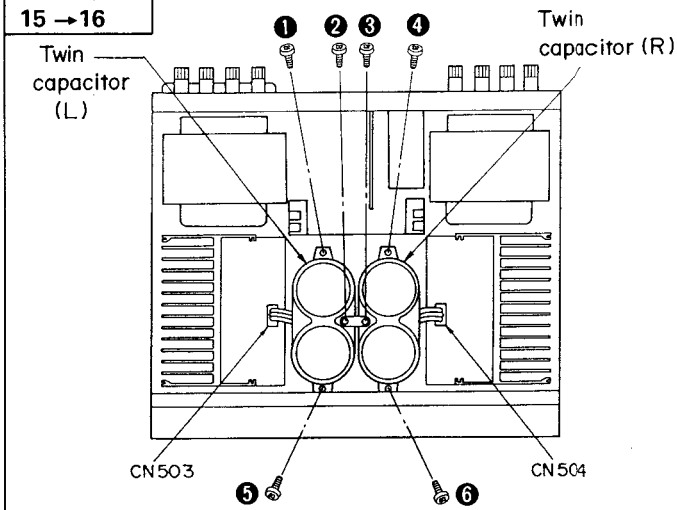
1. Remove the 2 connectors (CN2, CN502).
2. Remove the 4 nuts (❺ ~ ❽).

Ref. No. 15	Removal of the relay P.C.B.
Procedure 1 →2 →3 →4 →7 → 15	



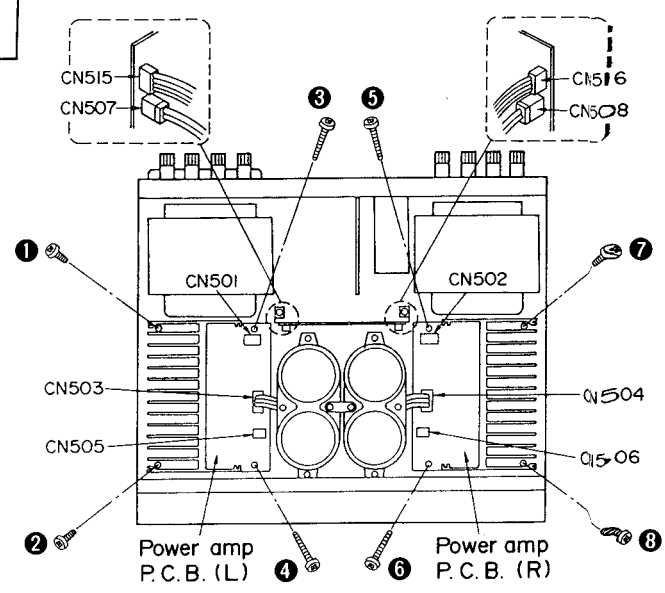
1. Remove the 2 latches.
2. Remove the 8 connectors (CN507, CN508, CN515, CN516, CN517, CN518, CN519, CN520).

Ref. No. 16	Removal of the twin capacitor (L), (R)
Procedure 1 →2 →3 →4 →7 → 15 →16	



1. Remove the 2 connectors (CN503, CN504).
2. Remove the 6 screws (❶ ~ ❻).

Ref. No. 17	Removal of the power amp P.C.B. (L), (R)
Procedure 1 →2 →3 →4 →5 → 7 →17	



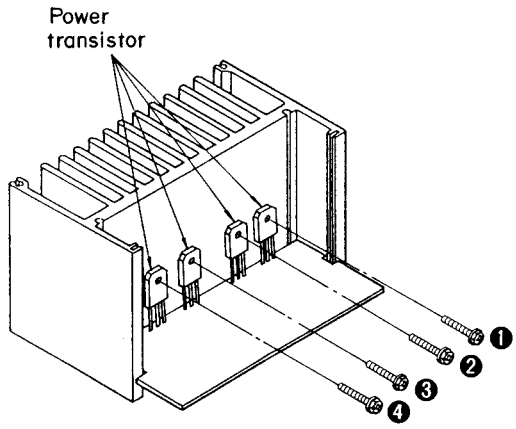
■ **Removal of the power amp P.C.B. (L)**

1. Remove the 4 screws (❶ ~ ❹).
2. Remove the 5 connectors (CN501, CN503, CN505, CN507, CN515).

■ **Removal of the power amp P.C.B. (R)**

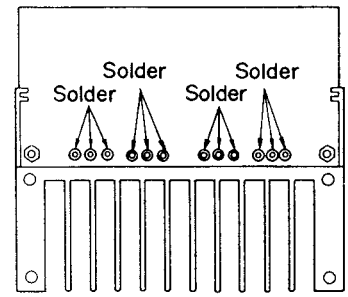
1. Remove the 4 screws (❺ ~ ❽)
2. Remove the 5 connectors (CN502, CN504, CN506, CN508, CN516).

Ref. No. 18	Removal of the power transistor.
Procedure 17 →18	

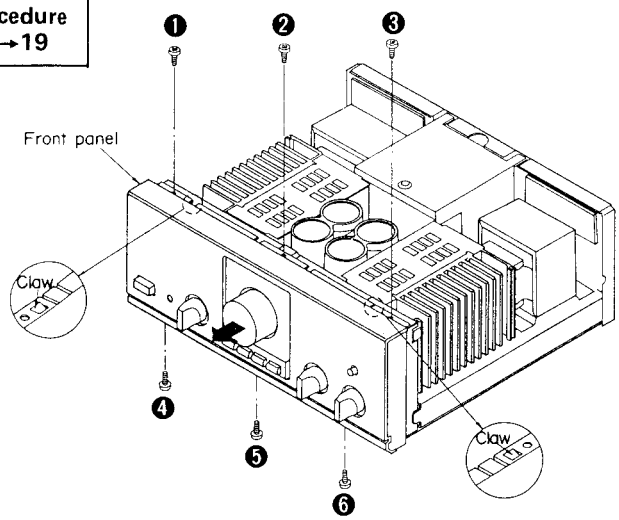


1. Unsolder the power transistor.
2. Remove the 4 screws (❶ ~ ❹).
   [This figure show the left (Lch) power transistor. Remove the right (Rch) power transistor in the same way.]

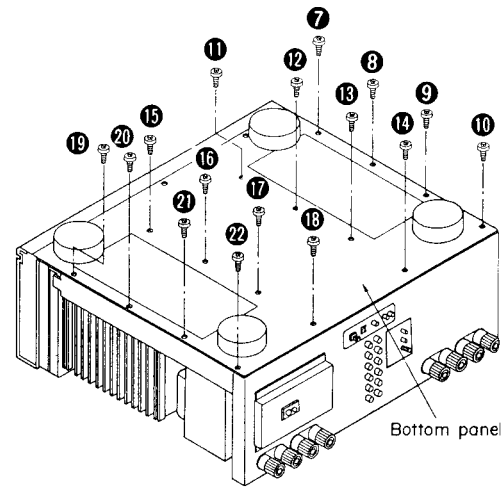
●When mounting the power IC or regulator transistor. Apply silicon compound (SZZ0L15) to the rear side of power IC or regulator transistor.



Ref. No. 19	Removal of the DAC P.C.B.
Procedure 1 →19	

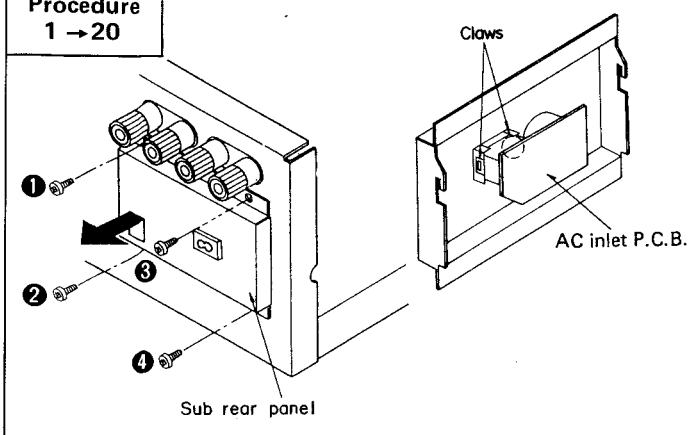


1. Remove the 6 screws (❶ ~ ❻).
2. Release the 2 claws, and pull out the front panel in the direction of the arrow.

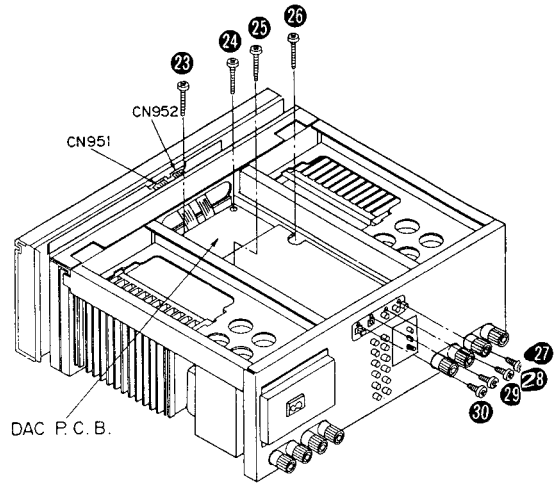


3. Remove the 16 screws (❼ ~ ㉒), and remove the bottom panel.

Ref. No. 20	Removal of the AC inlet P.C.B.
Procedure 1 →20	



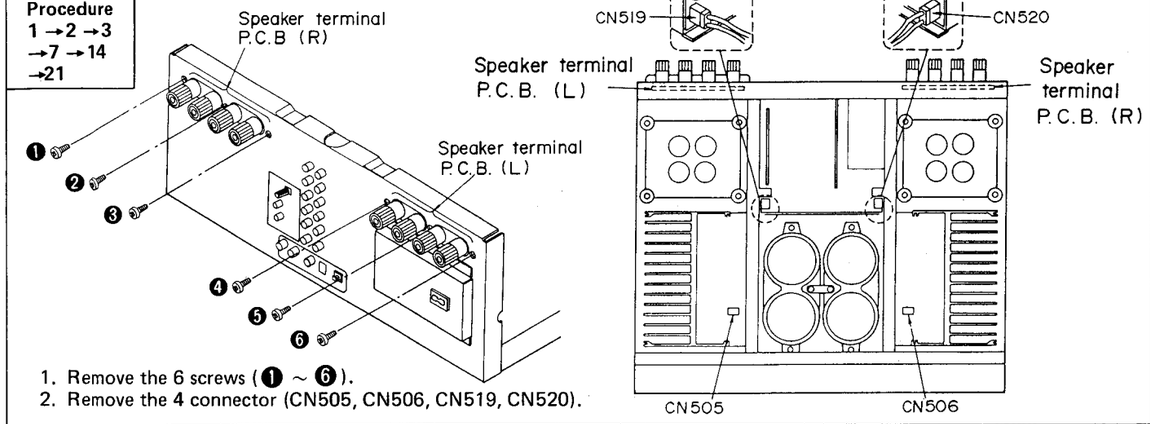
1. Remove the 4 screw (❶ ~ ❹), and remove the sub rear panel in the direction of the arrow.
2. Release the 2 claws.



4. Remove the 2 connectors (CN951, CN952).
5. Remove the 8 screws (㉓ ~ ㉚).

Ref. No. 21 — Removal of the speaker terminal P.C.B. (L), (R)

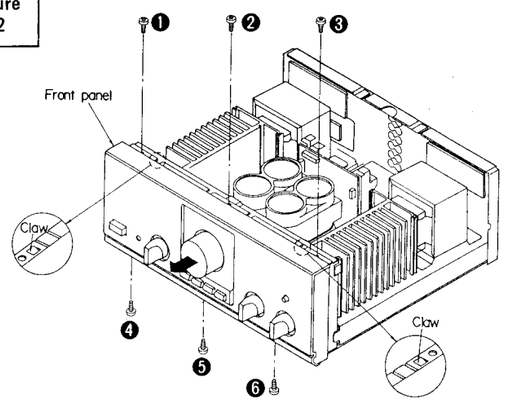
Procedure 1 →2 →3 →7 →14 →21



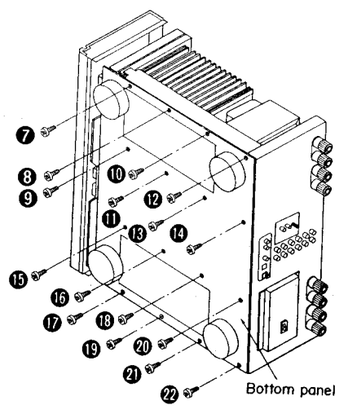
1. Remove the 6 screws (❶ ~ ❻).
2. Remove the 4 connector (CN505, CN506, CN519, CN520).

Ref. No. 22 — How to check the operation P.C.B., power amp P.C.B. (L)/ (R) and DAC P.C.B.

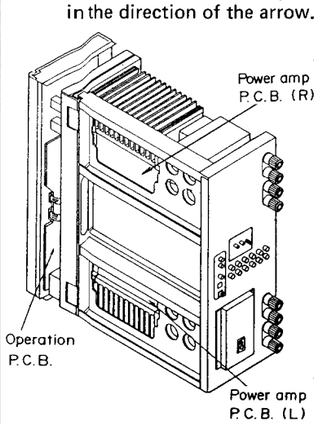
Procedure 1 →22



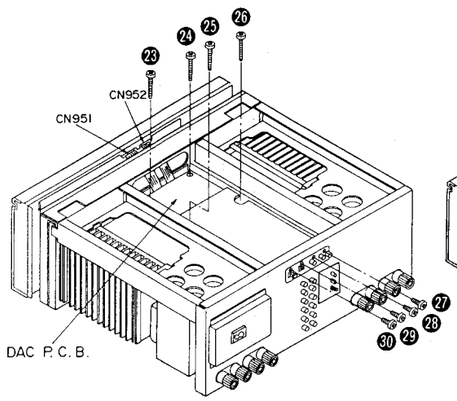
1. Remove the 6 screws (❶ ~ ❻).
2. Release the 2 claws, and pull out the front panel in the direction of the arrow.



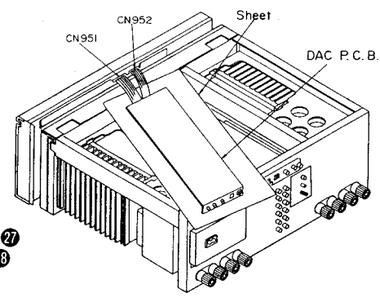
3. Remove the 16 screws (❼ ~ ㉒).



4. When checking the soldered surface of P.C.B. and replacing the parts, do as show.



5. Remove the 8 screws (㉓ ~ ㉚).
6. Remove the 2 connectors (CN951, CN952), and Remove the DAC P.C.B.



7. When checking the soldered surface of P.C.B. and replacing the parts, connect the connectors (CN951, CN952), do as shown.

Ref. No. 23 — How to check the voltage control amp P.C.B. (L), (R)

Procedure 1 →2 →23

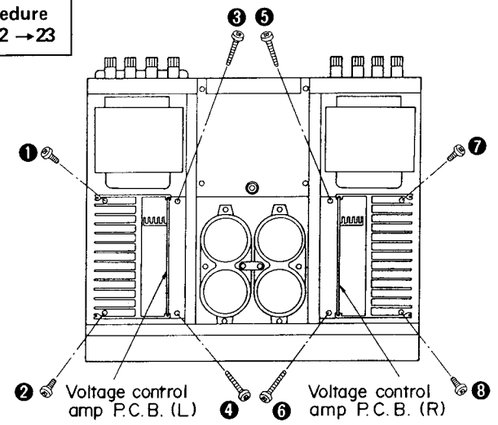


Figure 1

1. Remove the 8 screws (❶~❽).
2. Pull out the radiator and voltage control amp P.C.B. in the direction of the arrow.

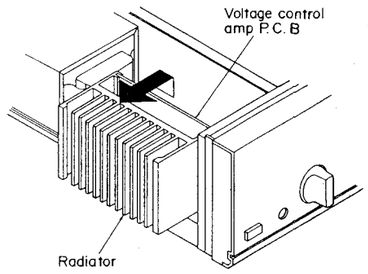


Figure 2

Note:
- Take care the connectors.
- Connect the earth terminal of power amp P.C.B. and chassis by lead wire.

Figure 2 and figure 3 show the left (Lch) voltage control amp P.C.B.
Remove the right (Rch) voltage control amp P.C.B. in the same way.

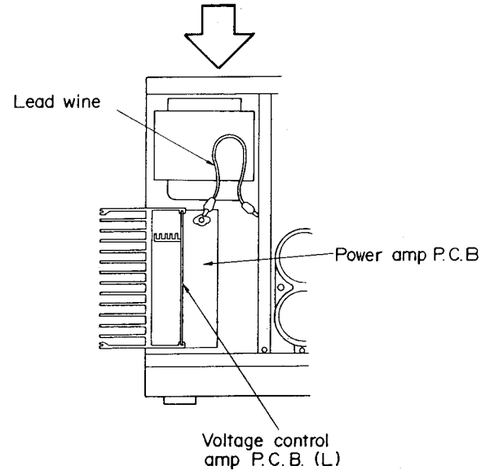


Figure 3

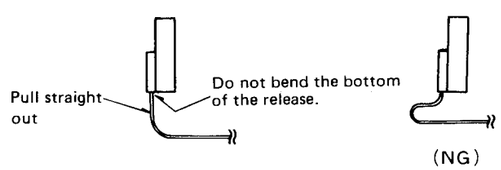
Ref. No. 24 — About the wire processing

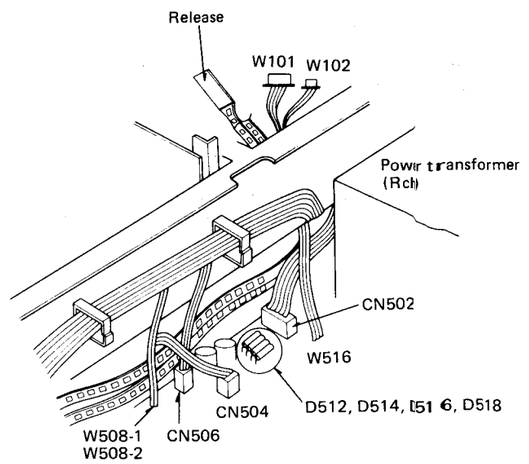
Procedure 1 →2 →4 →24

- When processing the wire after the repair finish, do as shown.

1. Insert the wires of twin capacitors into the clamper.
2. The release (INPUT/REC. switch) should be routed to the inside of the CN504 lead wires. Also, do not clamp the release.
3. Arrange the various lead wires so that they are not touching the rectifier diode.

Note:
Be especially careful not to bend or forcefully pull the bottom of the release (INPUT/REC. switch); doing so could cause a malfunction.





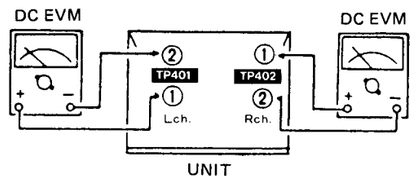
■ MEASUREMENTS AND ADJUSTMENTS

Control positions and equipment used.

- Volume knob . . . . . ∞ (Minimum)
- Speaker selector . . . . . off
- Compact disc player using the "DIGITAL OUT" terminal.
- Test disc
- AC and DC electronic voltmeter (EVM)

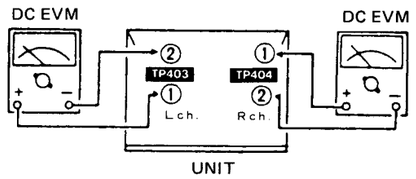
(1) VOLTAGE CONTROL (V) AMP. IDLING (ICQ) ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM on both channels.)
2. Completely turn the (V) amp. adjusting volumes (**VR401, VR402**) counter-clockwise.
3. Turn ON the set when it is cold, and about 5 ~ 7 sec. later, adjust **VR401** and **VR402** so that the voltage is **25mV.**
   Also, check that the voltage is **25 ~ 30mV** (standard: **27mV**) after lapse of **10 –15 minutes.** (Below **50mV** after lapse of **20min.**).



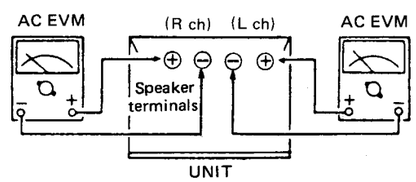
(2) CURRENT DRIVE (C) AMP. IDLING (ICQ) ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM on both channels.)
2. Completely turn the (C) amp. adjusting volumes (**VR403, VR404**) counter-clockwise.
3. Turn ON the set when it is cold, and the "VOLTAGE CONTROL (V) AMP. IDLING (ICQ) ADJUSTMENT" later, adjust **VR403** and **VR404** so that the voltage is **3mV.**
   Also, check that the voltage is **4 ~ 7mV** (standard: **5mV**) after lapse of **10 – 15 minutes.** (Below **15mV** after lapse of **20 min.**).

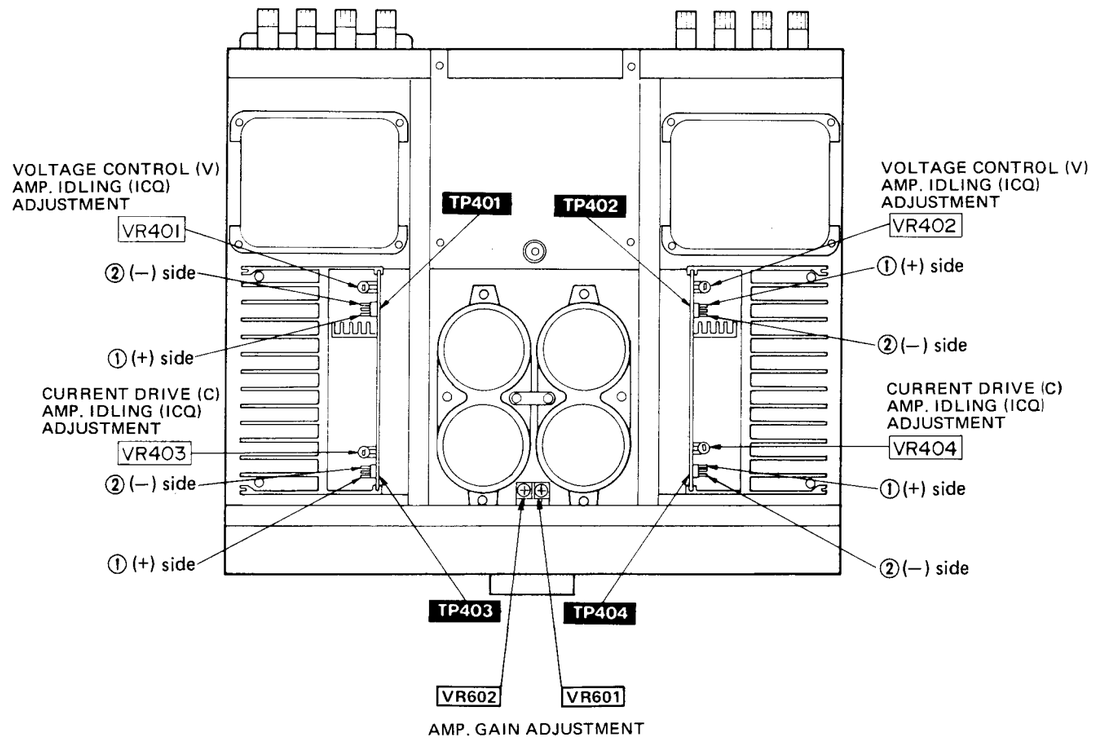


(3) AMP. GAIN ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the AC EVM on both channels.)
2. Set the input selector to the "digital".
3. Set the digital input selector to the "coaxial 3 ".
4. Set the speaker systems to the "A" or "B".
5. Connect the coaxial (digital) output terminal of the compact disc player to the "coaxial 3" using a coaxial cable.
6. Place the volume control scale to the "–8dB".
7. Turn ON the set and the compact discplayer, and play the 1kHz, –20 dB on the test disc.
8. Adjust **VR601** (Lch) [**VR602** (Rch)] so that the voltage is **3.5 ± 0.1V.**



● Adjustment points



■ TERMINAL FUNCTION OF IC'S

● IC717 (YM3623B): Digital signal processor

Pin No.	Mark	I/O Division	Function
1	VDD1	I	Power supply terminal
2	ADJ	–	(Not used, open)
3	VCO	I/O	External condenser terminal
4	VSS2	–	GND terminal
5	XO	O	Crystal vibrator input/output terminal
6	XI	I	
7	$\overline{\text{KMODE}}$	I	Reset signal
8	OA	–	(Not used, open)
9	OB		
10	$\overline{\text{TI}}$	–	(Not used, open)
11	$\overline{\text{T2}}$		
12	BCO	O	Serial bit clock output
13	$\overline{\text{SYNC}}$	O	Synchronization signal (Not used, open)
14	Vss1	–	GND terminal

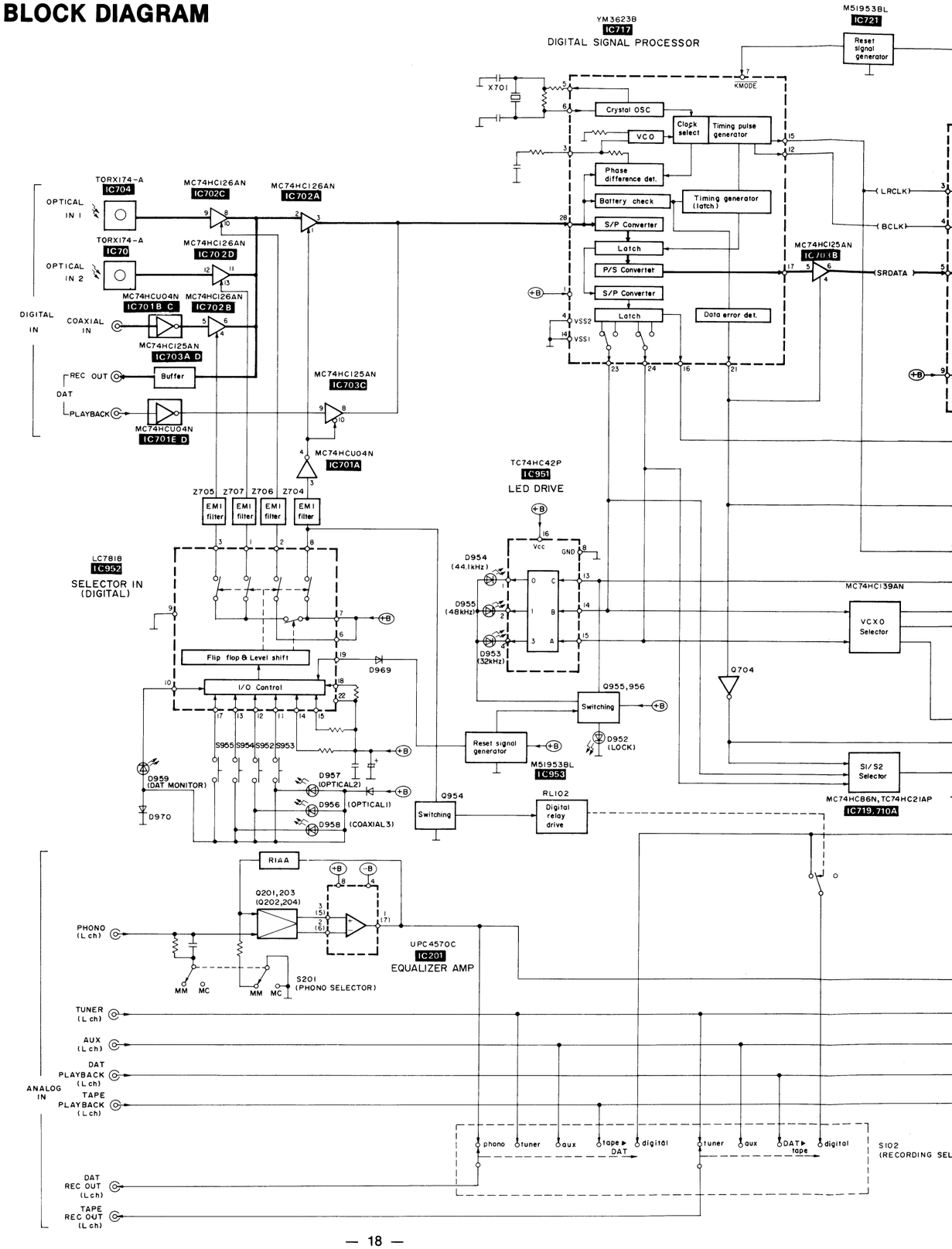
Pin No.	Mark	I/O Division	Function
15	L/R	O	L/R discrimination signal
16	DEF	O	Emphasis signal
17	D0	O	Serial data output
18	WC	–	(Not used, open)
19	DIGR		
20	DIG L		
21	ERR	O	Error detection terminal
22	SEL	I	Power supply terminal
23	S1	O	VCXO control signal and LED drive signal output
24	S2		
25	SCK	O	Sub code clock signal output (Not used, open)
26	SSYNC	O	Sub code signal (Not used, open)
27	SDO	O	Sub code data output (Not used, open)
28	DIN	I	Serial data input

•IC801 (MN6472): Digital filter & D/A converter

Pin No.	Mark	I/O Division	Function
1	192fs	O	192fs (=8.4672 MHz) output (Not used, open)
2	LRPOL	I	L/R clock selector (Not used, connected to power supply)
3	LRCLK	I	L/R discrimination signal
4	BCLK	I	Serial bit clock input
5	SRDATA	I	Serial data input
6	DVss	–	Digital GND terminal
7	384fs	O	384fs (=16.9344 MHz) output (Not used, open)
8	MDATA	I	Command data input (Not used, connected to GND)
9	MCLK	I	Command clock input (Not used, connected to power supply)
10	MLD	I	Command load input (Not used, connected to GND)
11	RSTB	I	Reset signal
12	IE	I	(Not used, connected to GND)
13	TP1	O	Test terminal
14	TP2		
15	TEST1	I	Test terminal (Not used, connected to GND)
16	DVDD	I	Digital power supply terminal
17	TEST2	I	Test terminal (Not used, open)
18	X3	I	(Not used, open)
19	SEL1	I	(Not used, connected to GND)
20	SEL2	I	(Not used, connected to GND)
21	AVDD1	I	Analog power supply terminal

Pin No.	Mark	I/O Division	Function
22	OUTL2(–)	O	Lch data output (–)
23	OUTL2(+)	O	Lch data output (+)
24	OUTL1(–)	O	Lch data output (–)
25	OUTL1 (+)	O	Lch data output (+)
26	AVss1	–	Analog GND terminal
27	NC	–	(Not connected)
28	AVss2	–	Analog GND terminal
29	OUTR1(+)	O	Rch data output (+)
30	OUTR1 (–)	O	Rch data output (–)
31	OUTR2(+)	O	Rch data output(+)
32	OUTR2 (–)	O	Rch data output(–)
33	AVDD2	I	Analog power supply terminal
34	DVDD1	I	Digital power supply terminal
35	DVss1	–	Digital GND terminal
36	X2	O	Clock output
37	X1	I	Clock input
38	DVss2	–	Digital GND terminal
39	NSUB	I	Sub strate terminal (Not used connected to power supply)
40	DVDD2	I	Digital power supply terminal
41	CLKSEL	–	(Not used, connected to GND)
42	ZFLAGB	O	Zero input detection terminal

■ BLOCK DIAGRAM



PROCESSOR

M51953BL
IC721
Reset signal generator

MN6472
IC801
DIGITAL FILTER & D/A CONVERTER

M5238P
IC803B, 804A
DIFFERENTIAL AMP

M5238P
IC803A
DIFFERENTIL AMP

M5238P
IC805A
DIFFERENTIAL AMP

M5238P
IC805B, 807
CLASS AA L.P.F.

M5238P
IC803B
M5238P
IC804A
M5238P
IC806B
DIFFERENTIAL AMP

M5238P
IC806A, 808
CLASS AA L.P.F.

M5238P
IC804B
DIFFERENTIAL AMP

KMODE
OSC
Clock select
Timing pulse generator
VCO
Timing generator (latch)
Data error det.
MC74HC125AN
IC703B
(LRCLK)
(BCLK)
(SRDATA)
RSTB
AVDD
DVDD
AVSS
DVSS
S/P Converter
FIR
MASH
PWM
PWM
Analog block
Analog block
Micro computer interface
Timing generator
Muting drive
Rch
Q803,804
Q805,806 RL802
De-emphasis drive
Muting control
Q812
Muting drive
Q763,807, RL801
L.P.F.
Q761,762,752,753
MC74HC32AN
IC716A B
Muting control
TC5081AP
IC713
PHASE COMPARATOR
VDD
R
PD
GND
AIN
AOUT
MC74HC139AN
VCXO Selector
MC74HCU04N
IC711C D
X702
VCXO (44.1kHz)
MC74HC86N
IC715A B C
768FS control
TC4066BP
IC722A
TC4066BP
IC722B
R753, C756
L.P.F.
Q701, 702
L.P.F.
MC74HCU04N
IC711B E
X703
VCXO (48kHz)
MC74HCU04N
IC711A F
X704
VCXO (32kHz)
384FS Selector
Counter (1/3)
MC74HC107N
IC709A B
Counter (1/128)
MC74HC393N
IC708A B
TC74HC21AP
IC710B
SN74LS624N
IC712
VCO
Q704
SI/S2 Selector
MC74HC86N, TC74HC21AP
IC719, 710A
VCXO/VCO selector & reset
TC74HC123AP, MC74HC32AN, MC74HC107N
IC718A B, 716C D, 727

(Q608,610,612) Q607,609,611
Constant current load
(Q618,622) Q617,621
Constant current load
(Q602,604,606) Q601,603,605
(Q616,620) Q615,619
(VR602) VR601
VR101-1 (2) (VOLUME)
Pre-drive
RL951,952
Digital/Analog filter

(Q402,404,406,408,410,412,414,416) Q401,403,405,407,409,411,413,415
Current stabilizer
Q419 (Q420)
Limiter
D413 (D414)
(Q424,428) Q423,427
Class AA amp.
(Q418) Q417
ICQ adj.
(Q426,430) Q425,429
Class AA amp.
(Q422) Q421
Limiter
D415 (D416)
M5218P
IC401, (402)
CURRENT CONTROL AMP.
M5218P
IC401, (402)
PRE DRIVE
Q503,507,515 (504,508,516)
Power amp.
ICQ adj.
Q501 (Q502)
Q505,509, 517 (506,516,518)
Power amp.
NFB
SPEAKERS
HEADPHONES
Q511
Over load det.
D504
AN7073
IC501
MUTING/PROTECTION
Constant current
Over load det.
Muting
DC det.
AC det.
GND
Q513
Relay drive
RL502
RL501
RL503
D507
D505
D506
S951 (SPEAKERS)
LED drive
Q951~953
D951 (POWER)

M5F79MI2L
IC725
Regulator
Z702
EMI filter
D524
D523
M5F78MI2L
IC724
Regulator
Z701
EMI filter
D964
D511,513,515,517
T1
Power transformer (L ch)
F1
S1 (POWER)
L1
AC IN
T2
D512,514,516,518
Power transformer (R ch)
F2
AN78L05
IC954
Regulator
AN7805
IC723
Regulator
Z703
EMI filter
D519~522

SI01 (INPUT SELECTOR)
digital
phono
tuner
aux
DAT
tape
VR101-4 (3) (VOLUME)
(Q102,104,106,) Q101,103,105
(Q114,116,120) Q113,115,119
Pre-drive
Constant current load
Q107,109,111 (Q108,110,112)
Constant current load
Q117,121 (Q118,122)

digital
tuner
aux
DAT tape
digital
SI02 (RECORDING SELECTOR)

Note:
→ Audio signal

■SCHEMATIC DIAGRAM

(Parts list on pages 44 ~ 49)

(This schematic diagram may be modified at any time with development of new technology.)

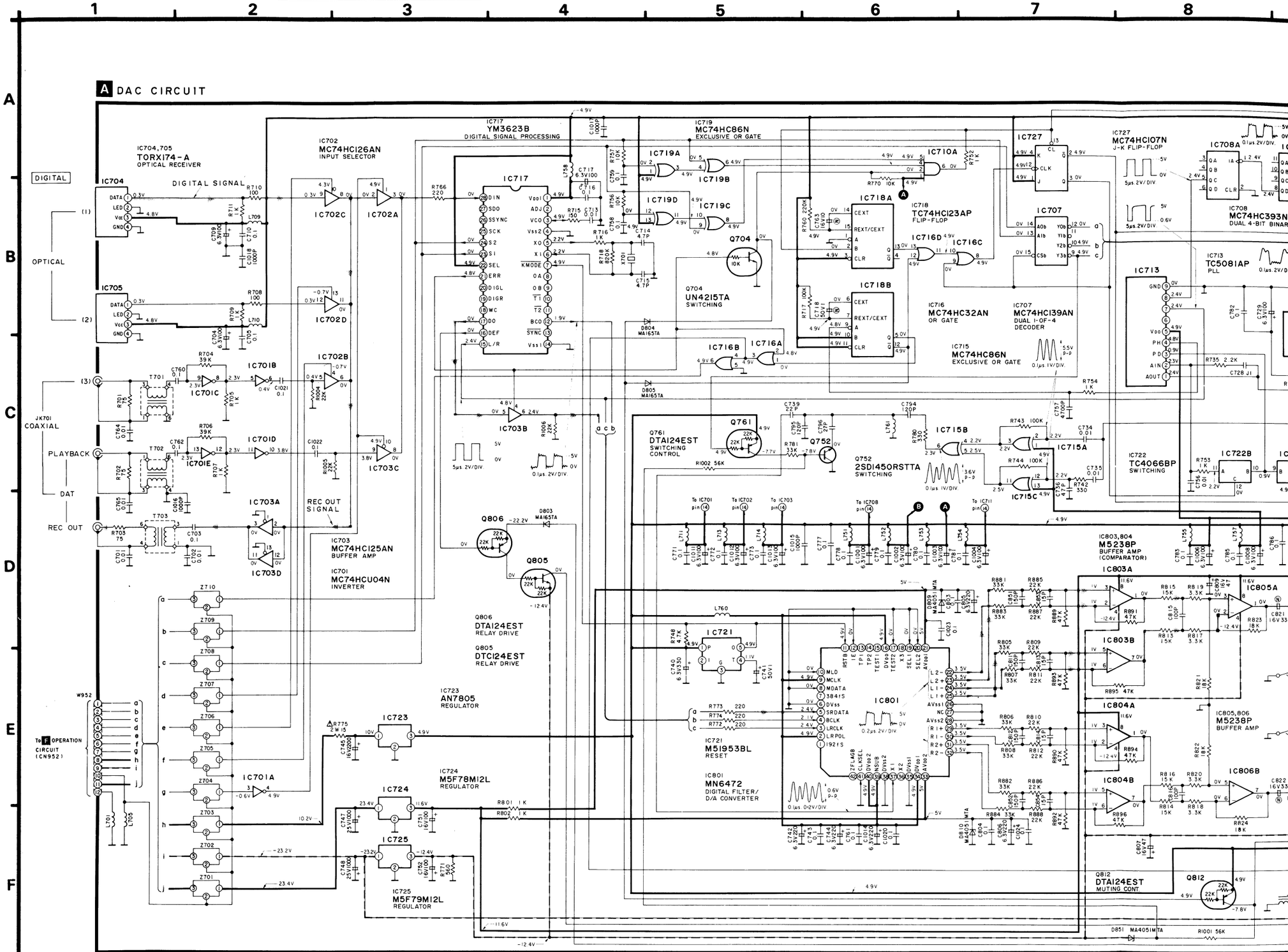
Notes:

- ●S1 : Power switch in "on" position.
- ●S101, 102 : Input selector (input selector) switch.
- ●S201 : Phono cartrige selector (phono selector) switch.
- ●S951 : Speaker selector (speakers) switch.
- ●S952~954 : Digital input selectors/indicators (digital input selector) switch.
  [S952: 1, S953: 2, S954: 3]
- ●S955 : DAT monitor switch/indicator (DAT monitor) switch.
- ●The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.
- ●Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- ● ——— / - - - - - : Positive voltage lines and negative voltage lines.
- ● ▒▒▒ : audio signal lines (Lch)
- ● ⟹ : analog signal lines (Lch)

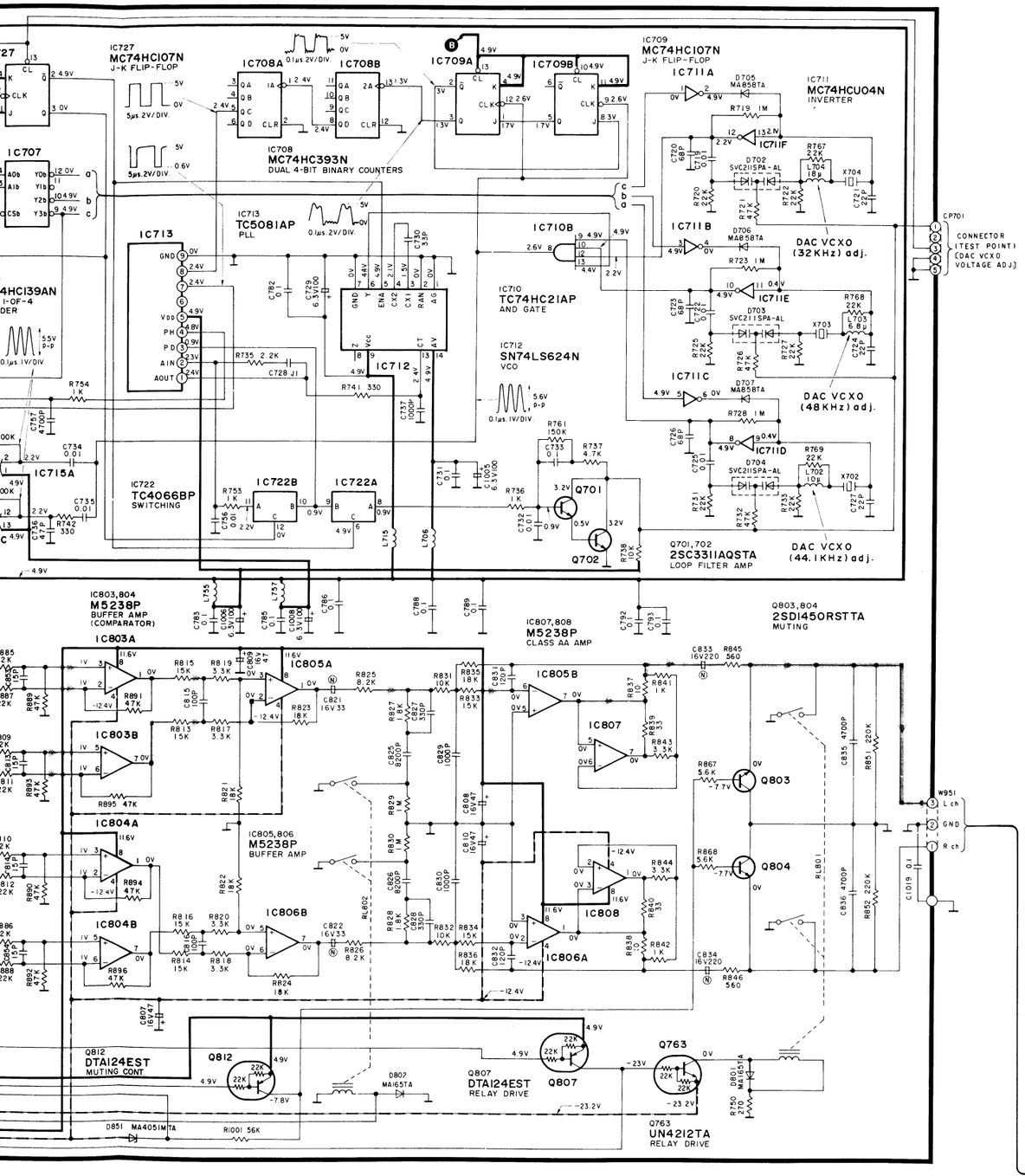
Caution!

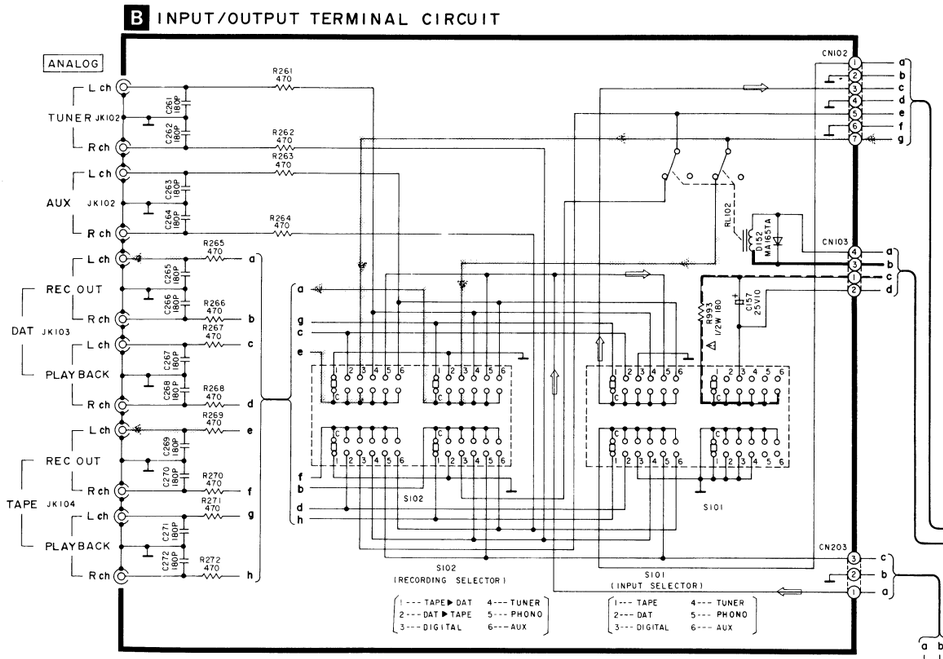
IC and LSI are sensitive to static electricity.
Secondary frouble can be prevented by taking care during repair.

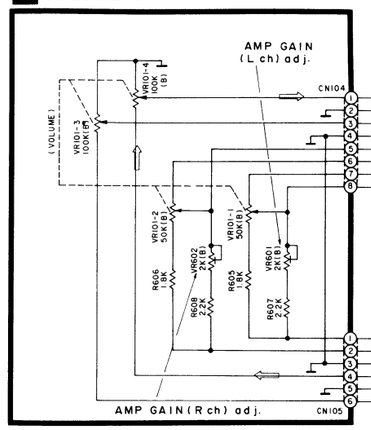
- ●Cover the parts boxes made of plastics with aluminum foil.
- ●Ground the soldering iron.
- ●Put a condictive mat on the work table.
- ●Do not touch the pins of IC or LSI with fingers directly.

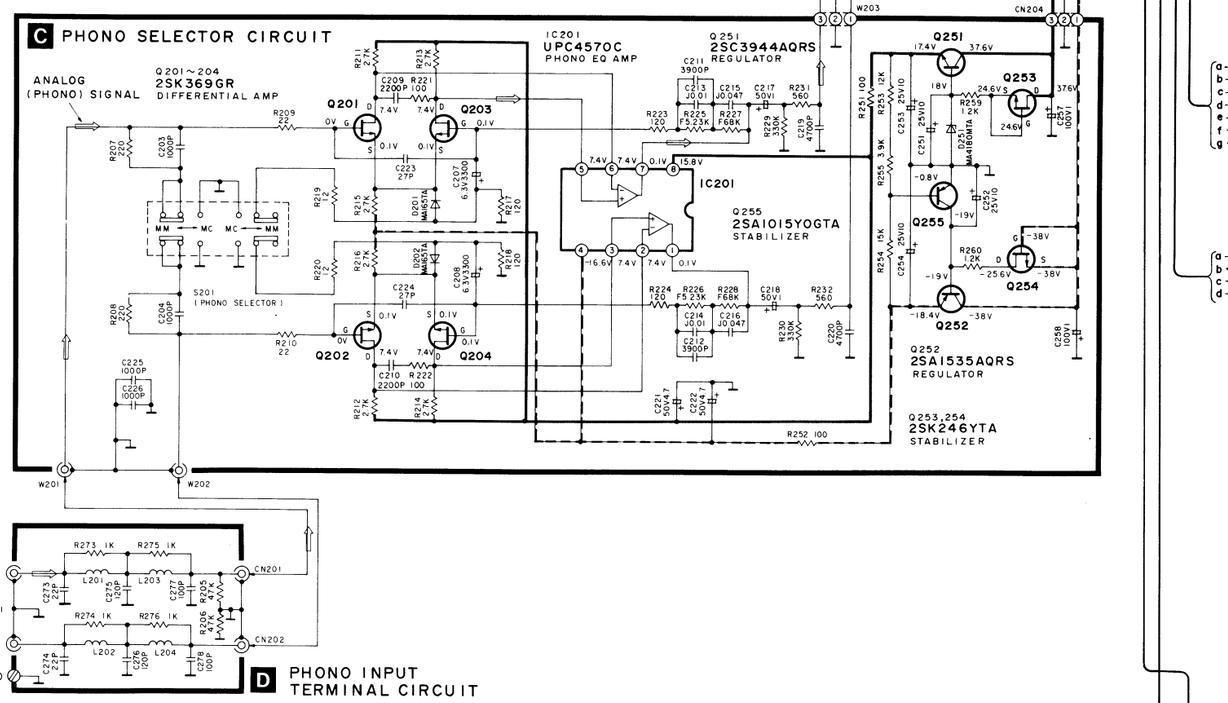


7 8 9 10 11 12 13 14 15 16 17









F OPERATION CIRCUIT

IC951
TC74HC42AP
LED DRIVE

IC952
LC7818
INPUT SELECT/LED DRIVE

IC953
M51953BL
VOLTAGE COMPARATOR

IC954
AN78L05
REGULATOR

Q954
2SC3311AQSTA
RELAY DRIVE

Q955
DTA124ESTP
LED DRIVE

Q956
2SC3311AQSTA
POWER SUPPLY

Q601,602
2SK389BG
DIFFERENTIAL AMP

Q603~606
2SD1512RSTTA
FLAT AMP

Q607~610
2SA1309AQSTA
FLAT AMP

Q611,612
2SC1845EFTA
STABILIZER

Q613,614
2SB1036RSTTA
FLAT AMP

Q617~620
2SC2631RSTTA
FLAT AMP/STABILIZER

Q101,102
2SK389BG
DIFFERENTIAL AMP

Q103~106
2SD1512RSTTA
FLAT AMP

Q107~110
2SA1309AQSTA
FLAT AMP

Q111,112
2SC1845EFTA
STABILIZER

Q113,114
2SB1036RSTTA
FLAT AMP

Q115,116
2SA1309AQSTA
FLAT AMP

Q117~120
2SC2631RSTTA
FLAT AMP/STABILIZER

Q121~124
2SA1123RSTTA
FLAT AMP

Q615,616,621,622
2SA1123RSTTA
FLAT AMP

DIGITAL BUFFER AMP

ANALOG BUFFER AMP

G SWITCH CIRCUIT

H HEADPHONES CIRCUIT

J VOLTAGE CONTROL AMP(L ch) CIRCUIT

Q401,407,409,415
2SA1123RSTTA
PRE DRIVE

Q403,405,411,413
2SC2631RSTTA
PRE DRIVE

IC401
M5218P
VOLTAGE/CURRENT MIRROR

Q423
2SC2631RSTTA
CLASS AA AMP

Q427
2SC3944AQRS
CLASS AA AMP

IC401(1/2)

Q417
2SC1815BGL
VOLTAGE CONTROL AMP (ICQ ADJ.)

L ch IDLING (VOLTAGE) ADJ.

Q421
2SA1309AQSTA
LIMITER

Q419
2SC3311AQSTA
LIMITER

Q425
2SA1123RSTTA
CLASS AA AMP

Q429
2SA1535AQRS
CLASS AA AMP

L ch IDLING (VOLTAGE) ADJ. POINT

K VOLTAGE CONTROL AMP(R ch) CIRCUIT

Q402,408,410,416
2SA1123RSTTA
PRE DRIVE

Q404,406,412,414
2SC2631RSTTA
PRE DRIVE

IC402
M5218P
VOLTAGE/CURRENT MIRROR

Q424
2SC2631RSTTA
CLASS AA AMP

Q428
2SC3944AQRS
CLASS AA AMP

IC402(1/2)

Q418
2SC1815BGL
VOLTAGE CONTROL AMP (ICQ ADJ.)

R ch IDLING (VOLTAGE) ADJ.

Q422
2SA1309AQSTA
LIMITER

Q420
2SC3311AQSTA
LIMITER

Q426
2SA1123RSTTA
CLASS AA AMP

Q430
2SA1535AQRS
CLASS AA AMP

R ch IDLING (VOLTAGE) ADJ. POINT

G SWITCH CIRCUIT

H HEADPHONES CIRCUIT

JK951 HEADPHONES

Q953 DTA114YSTP LED DRIVE

Q952 DTA124ESTP LED DRIVE

IC953 M51953BL VOLTAGE COMPARATOR

IC954 AN78L05 REGULATOR

Q951 2SC1845EFTA LED DRIVE CONT.

D951 LN173W P38TDA (POWER)

I LED CIRCUIT

N RELAY CIRCUIT

IC501 AN7073 PROTECTION (MUTING)

Q513 2SA992EFPTA RELAY DRIVE

O SPEAKER TE (Lch)CIRCUI

P SPEAKER TE (Rch) CIRCUI

TAGE CONTROL AMP(Lch) CIRCUIT

L POWER AMP(Lch) CIRCUIT

Q401,403,405,411,413 2SC2631RSTTA PRE DRIVE

IC401 M52118P VOLTAGE/CURRENT MIRROR

Q423 2SC2631RSTTA CLASS AA AMP

Q427 2SC3944AQRS CLASS AA AMP

L ch IDLING (VOLTAGE) ADJ. POINT

L ch IDLING (CURRENT) ADJ.

IC401(1/2)

Q417 2SC1815BGL VOLTAGE CONTROL AMP (ICQ ADJ.)

Q421 2SA1309AQSTA LIMITER

Q419 2SC3311AQSTA LIMITER

Q425 2SA1123RSTTA CLASS AA AMP

Q429 2SA1535AQRS CLASS AA AMP

L ch IDLING (VOLTAGE) ADJ.

L ch IDLING (CURRENT) ADJ.POINT

Q501 2SC1815BGL CURRENT DRIVE (ICQ ADJ.)

Q503 2SC3944AQRS DRIVE AMP

Q505 2SA1535AQRS DRIVE AMP

Q509,517 2SA1265R POWER AMP

Q507,515 2SC3182R POWER AMP

Q511 2SB1036RSTTA OVER LOAD DET.

C551A (TWIN CAPACITOR)

TAGE CONTROL AMP(Rch) CIRCUIT

M POWER AMP(Rch) CIRCUIT

Q402,404,406,412,414 2SC2631RSTTA PRE DRIVE

IC402 M52118P VOLTAGE/CURRENT MIRROR

Q424 2SC2631RSTTA CLASS AA AMP

Q428 2SC3944AQRS CLASS AA AMP

R ch IDLING (VOLTAGE) ADJ.POINT

R ch IDLING (CURRENT) ADJ.

IC402(1/2)

Q418 2SC1815BGL VOLTAGE CONTROL AMP (ICQ ADJ.)

Q422 2SA1309AQSTA LIMITER

Q420 2SC3311AQSTA LIMITER

Q426 2SA1123RSTTA CLASS AA AMP

Q430 2SA1535AQRS CLASS AA AMP

R ch IDLING (VOLTAGE) ADJ.

R ch IDLING (CURRENT) ADJ. POINT

Q502 2SC1815BGL CURRENT DRIVE (ICQ ADJ.)

Q504 2SC3944AQRS DRIVE AMP

Q506 2SA1535AQRS DRIVE AMP

Q510,518 2SA1265R POWER AMP

Q508,516 2SC3182R POWER AMP

Q512 2SB1036RSTTA OVER LOAD DET.

C552A (TWIN CAPACITOR)

Q POWER SWITCH CIRCUIT

S AC

R FUSE CIRCUIT

30 31 32 33 34 35 36 37 38 39 40

N RELAY CIRCUIT

IC501
AN7073
PROTECTION
(MUTING)

IC501
MUTING
BIAS
DC DET
AC DET
OUTPUT SHINK
OVER LOAD DETECTOR

Q513
2SA992EFPTA
RELAY DRIVE

Q511
2SB1036RSTTA
OVER LOAD DET.

Q512
2SB1036RSTTA
OVER LOAD DET.

Q509,517
2SA1265R
POWER AMP

Q507,515
2SC3182R
POWER AMP

Q510,518
2SA1265R
POWER AMP

Q508,516
2SC3182R
POWER AMP

C551A
(TWIN CAPACITOR)

C552A
(TWIN CAPACITOR)

O SPEAKER TERMINAL (Lch) CIRCUIT

JK501
SPEAKERS (Lch)

P SPEAKER TERMINAL (Rch) CIRCUIT

JK502
SPEAKERS (Rch)

Q POWER SWITCH CIRCUIT

S AC IN CIRCUIT

AC IN
220V---(E,EG)
240V---(EB)
50/60Hz

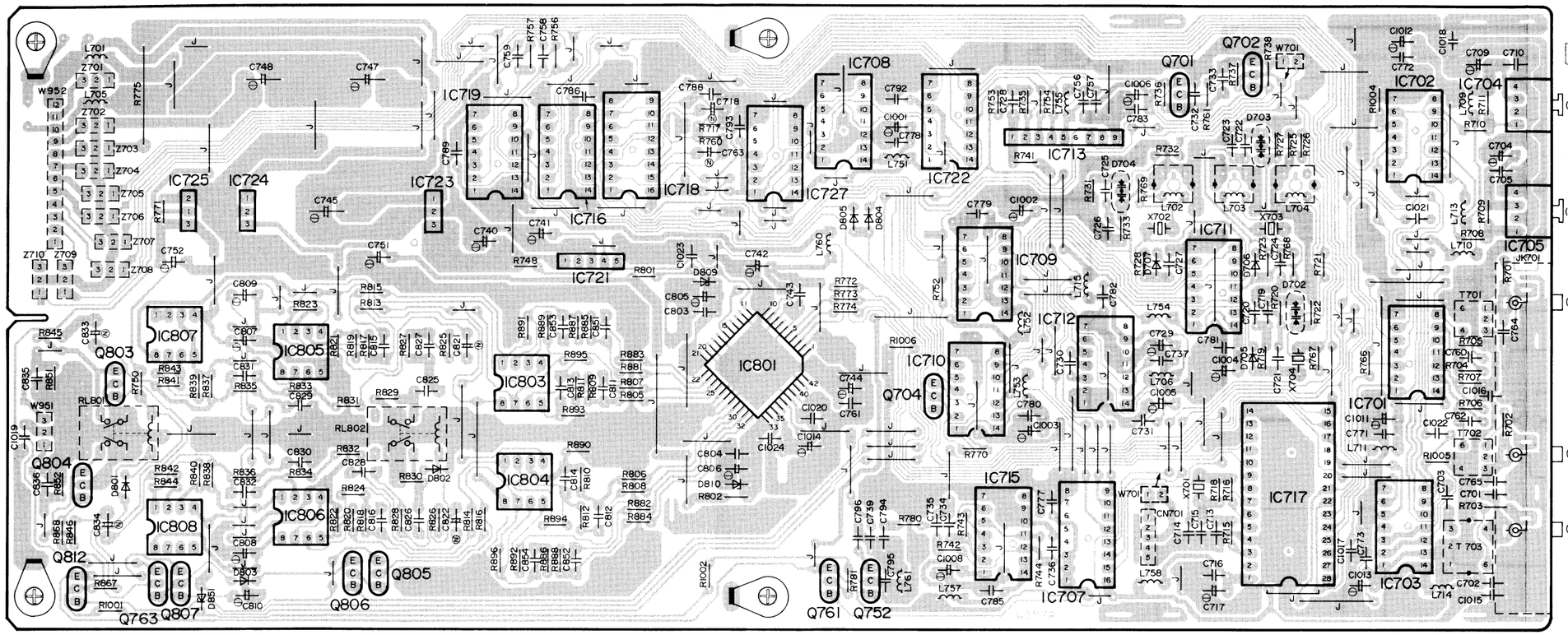
R FUSE CIRCUIT

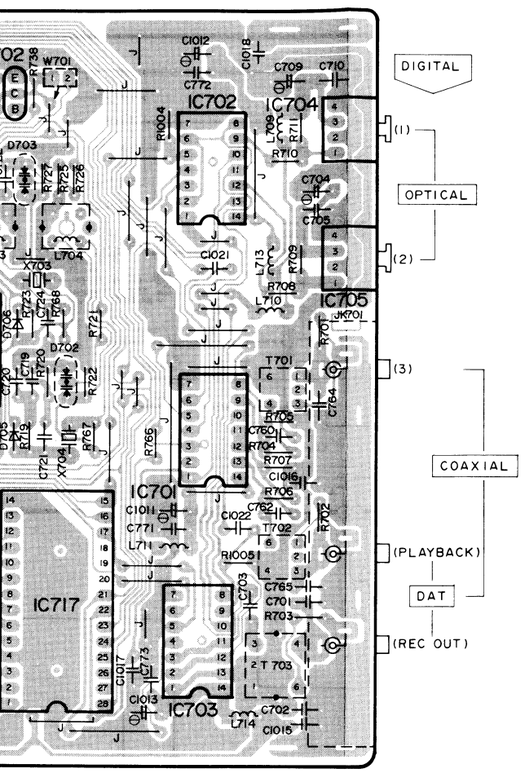
T1 (Lch)
T2 (Rch)
AC 43V
AC 14V

SU-MA10 SU-MA10

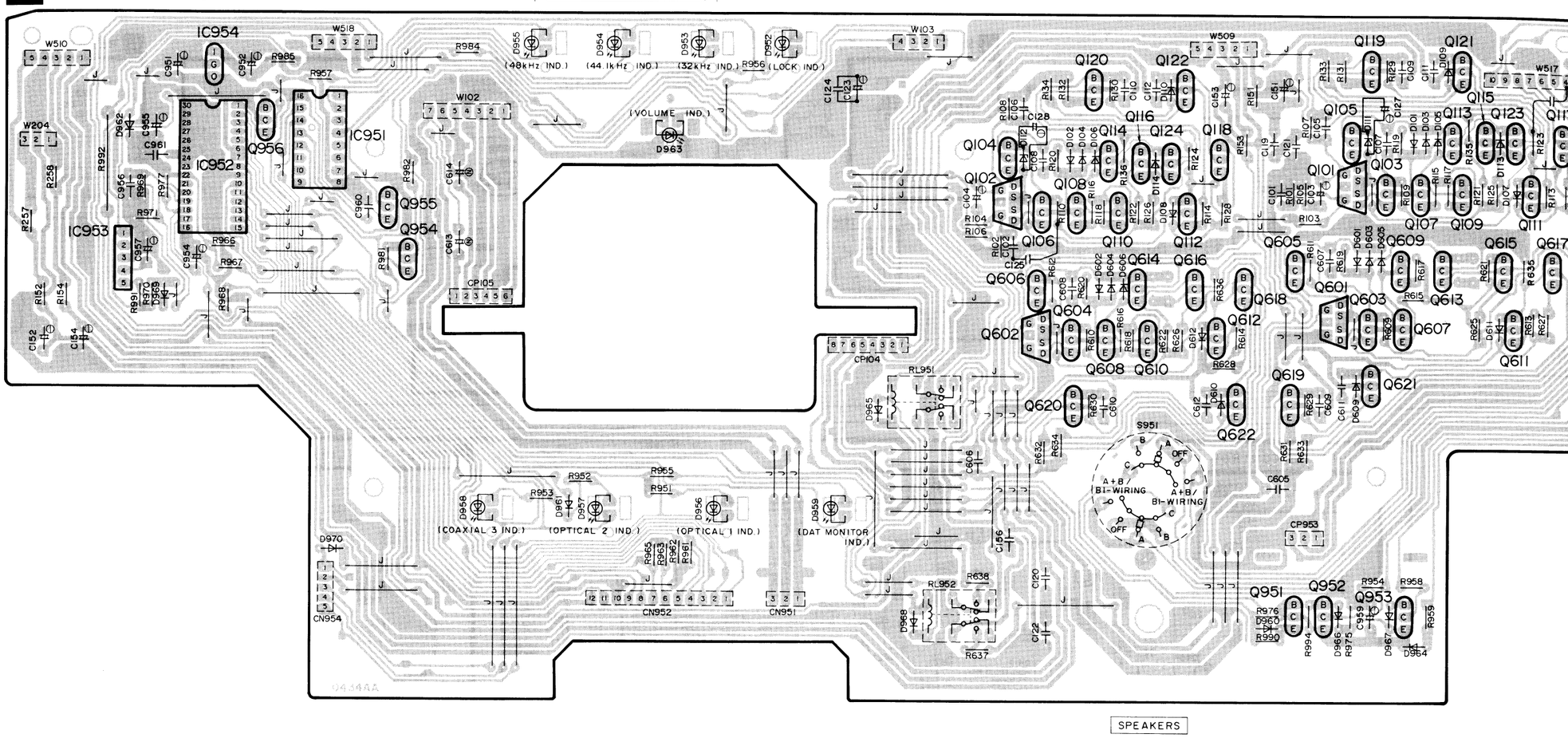
■ PRINTED CIRCUIT BOARDS

A DAC P.C.B.

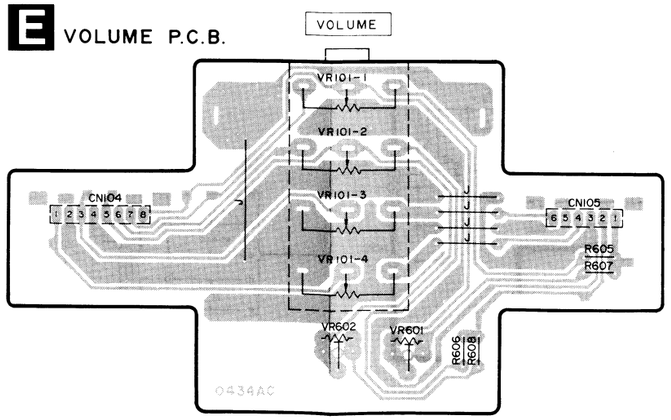




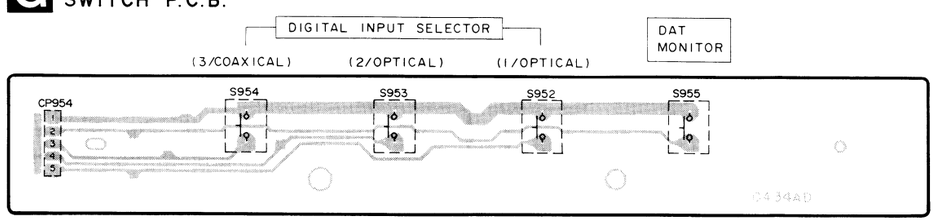
F OPERATION P.C.B.



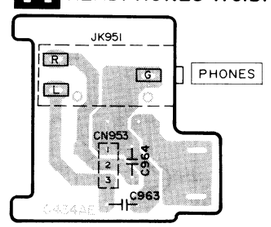
E VOLUME P.C.B.



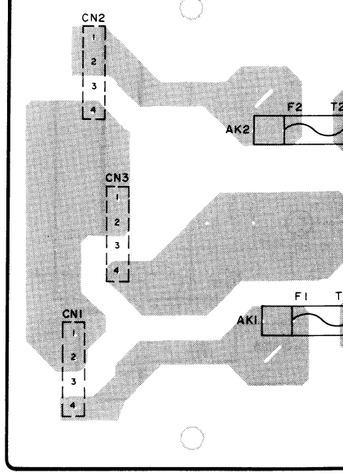
G SWITCH P.C.B.



H HEADPHONES P.C.B.

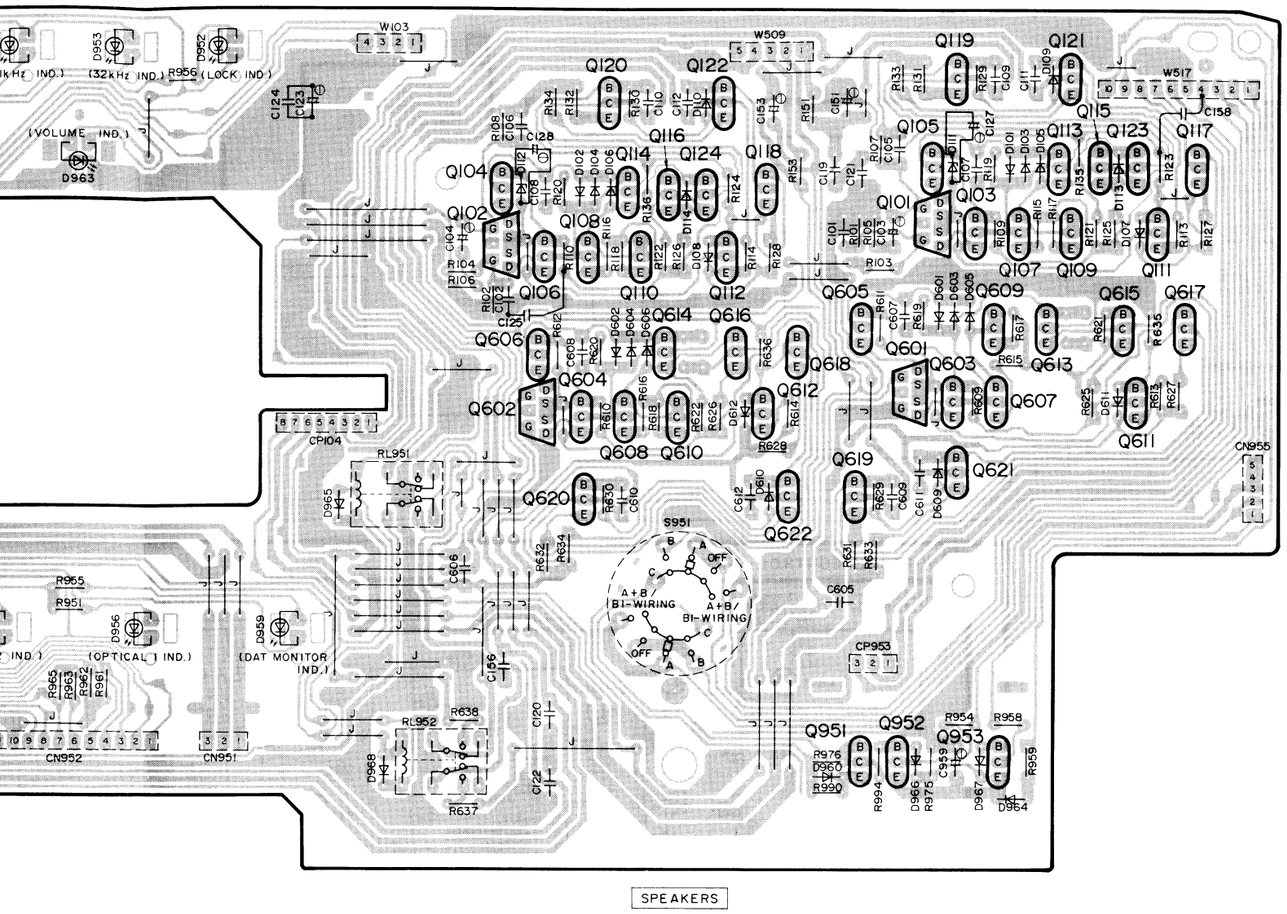


R FUSE P.C.B.



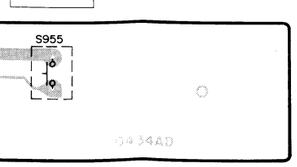
13 14 15 16 17 18 19 20 21 22

NG FREQUENCY

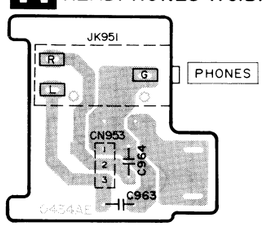


SPEAKERS

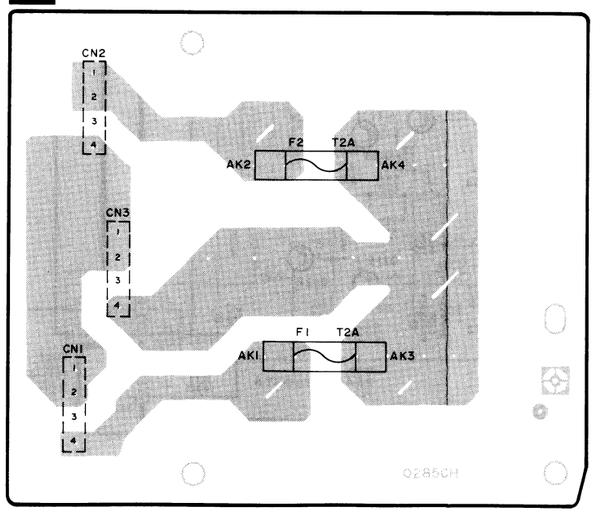
DAT MONITOR



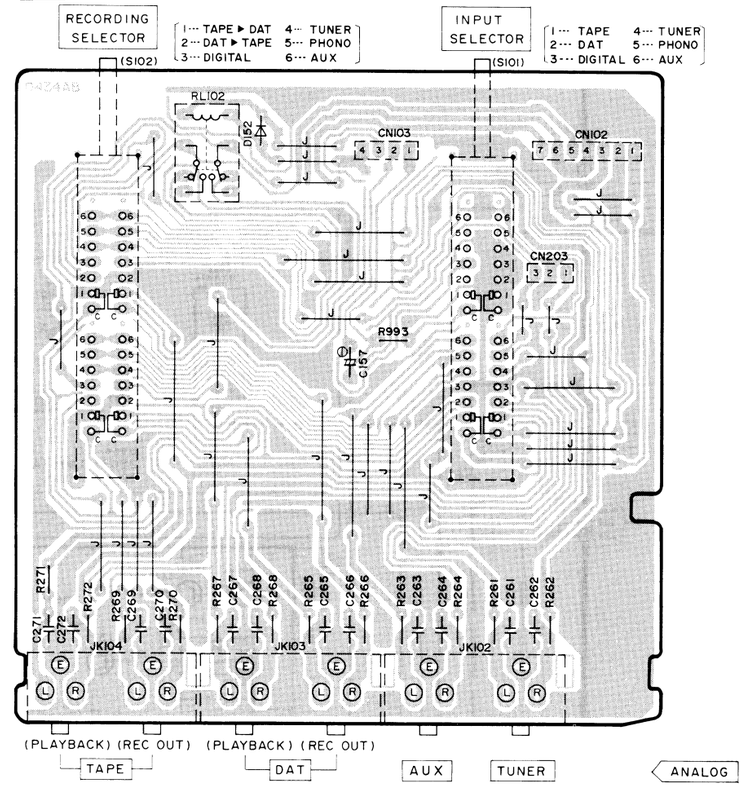
H HEADPHONES P.C.B.



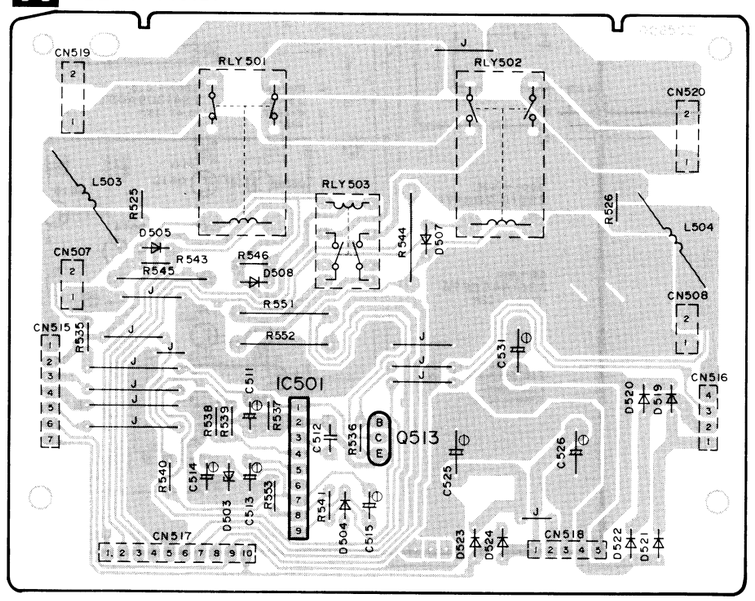
R FUSE P.C.B.



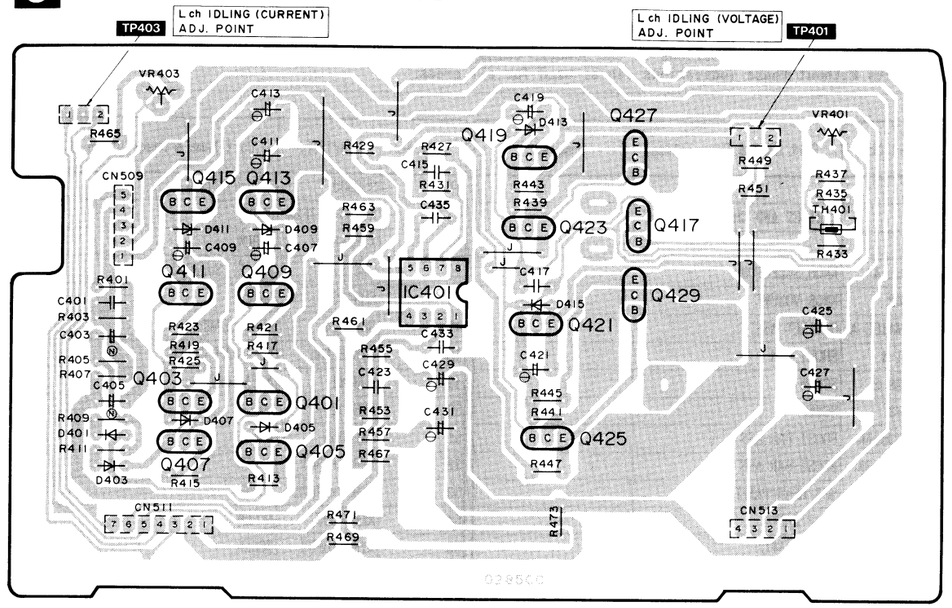
B INPUT/OUTPUT TERMINAL P.C.B.



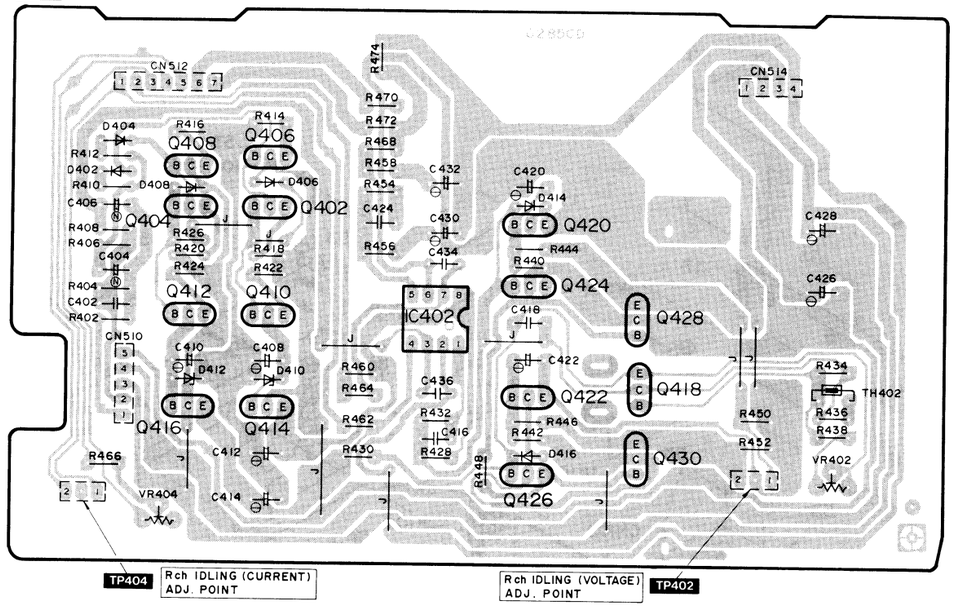
N RELAY P.C.B.



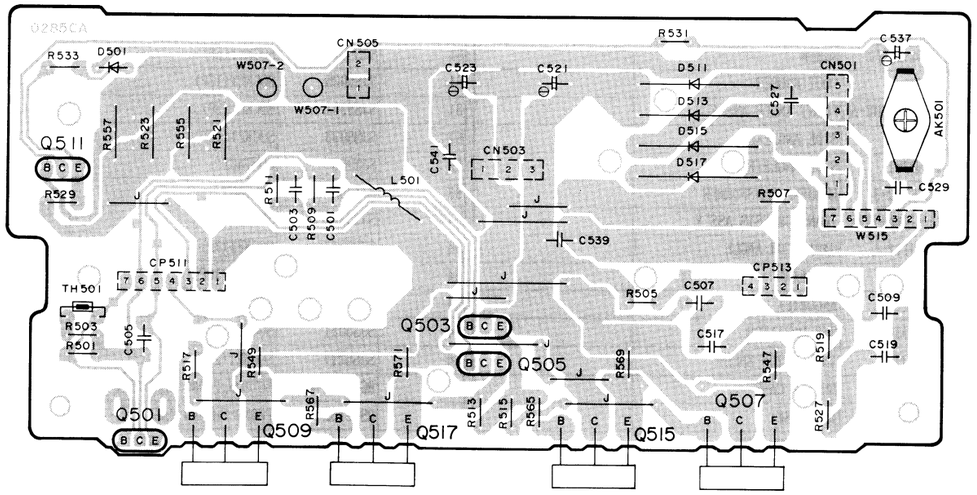
J VOLTAGE CONTROL AMP (L ch) P.C.B.



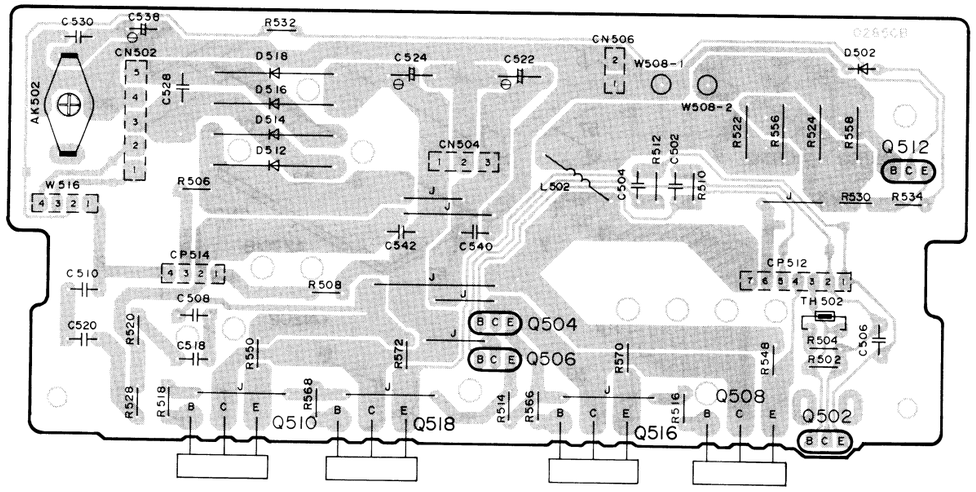
K VOLTAGE CONTROL AMP (R ch) P.C.B.



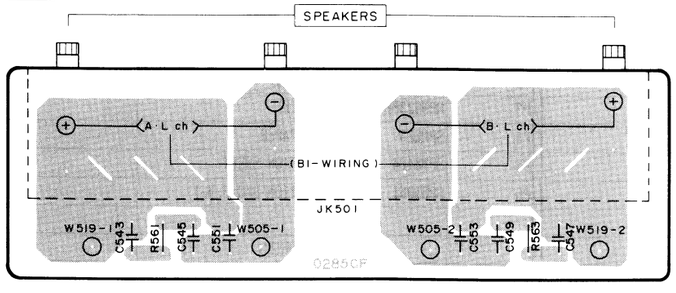
L POWER AMP (L ch) P.C.B.



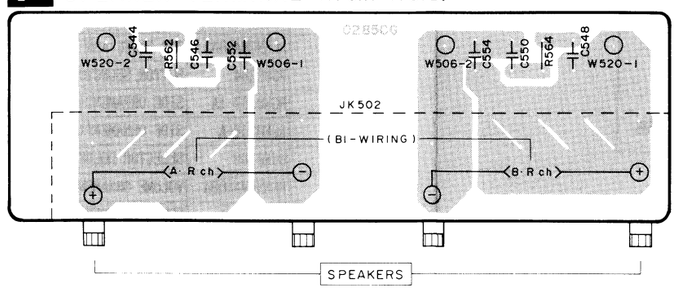
M POWER AMP (R ch) P.C.B.



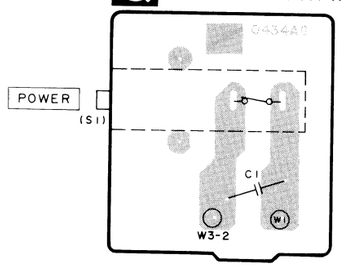
O SPEAKER TERMINAL (Lch) P.C.B.



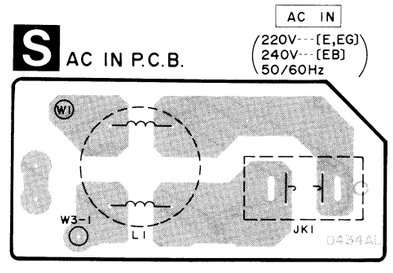
P SPEAKER TERMINAL (R ch) P.C.B.



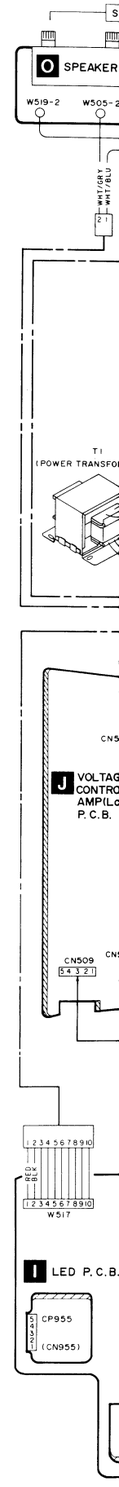
Q POWER SWITCH P.C.B.



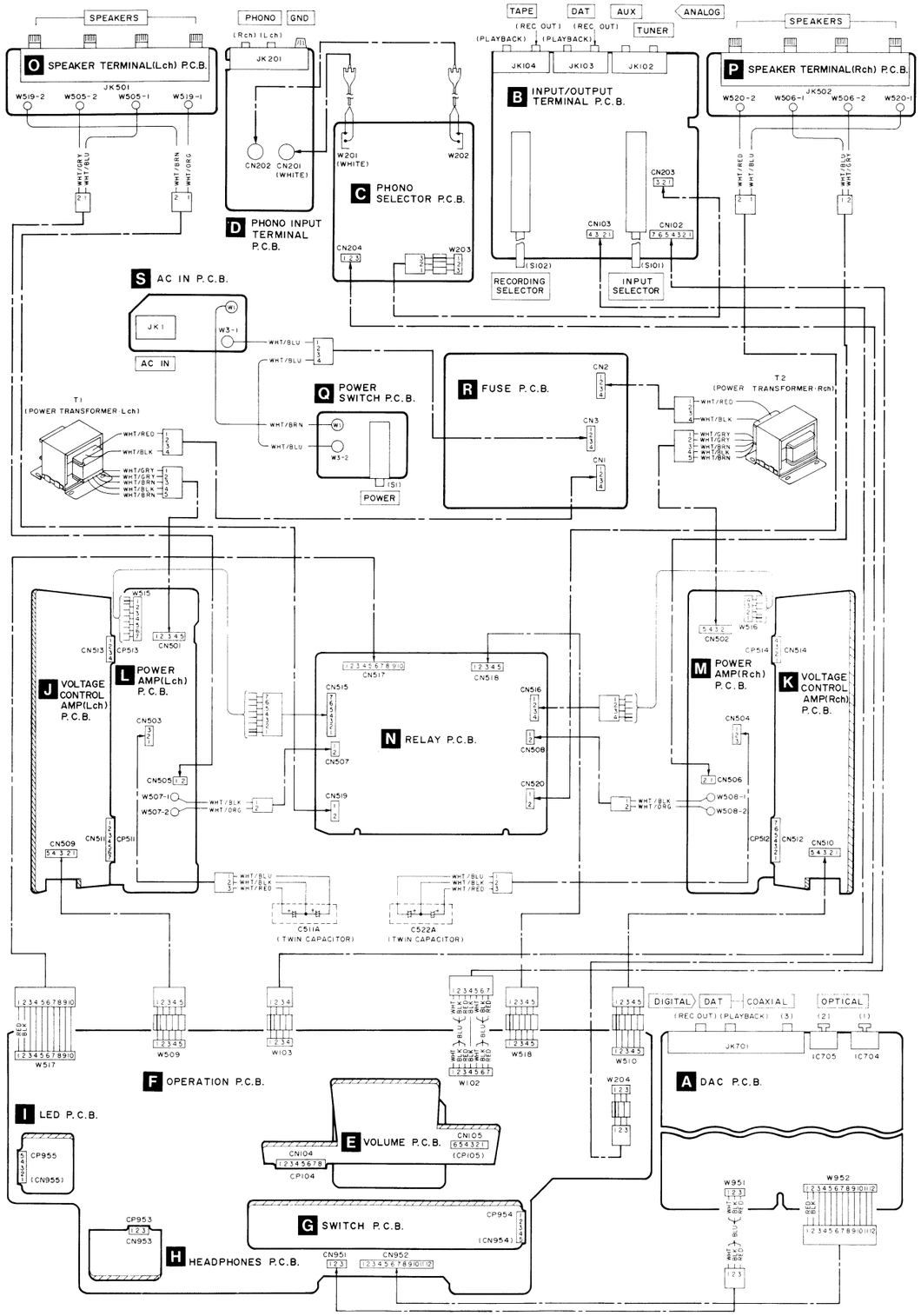
S AC IN P.C.B.



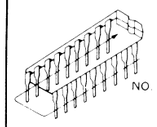
WIRIN



■ WIRING CONNECTION DIAGRAM



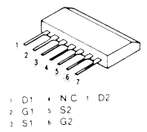
■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODE'S

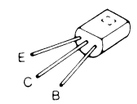


IC7818	30pin	MC74HCU04N MC74HC107N MC74HC125AN MC74HC126AN MC74HC32AN MC74HC393N	14pin	MC74HC86N TC74HC21AP SN74LS624N	14pin
YM3623B	28pin				
TC74HC42P TC74HC123AP MC74HC139AN	16pin			TC4066BP M5238P–1 M5218P	8pin

UPC4570C TC5081AP AN7073	9pin	NO. 1
M51953BL	5pin	

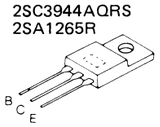
2SK389BG

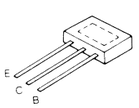




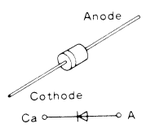
2SA992EFPTA
2SA1123RSTTA
2SB1036R
2SC2631RSTTA
2SC1815BG
2SC1845EFTA
2SA1015Y

2SA1535AQRS
2SC3944AQRS
2SA1265R

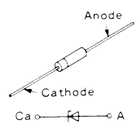




2SA1309A–R
2SC3311A–Q
2SD1450RTA
2SD1512R
2SC3182R

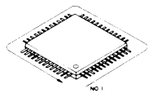


P300DLF
1SR35200TB
MA165TA
MA167TA
MA29WATA
MA858TA

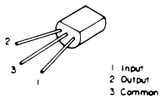


MA4082MTA
MA4160M
MA4051MTA
MA4180–M

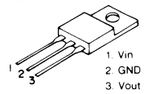
MN6472 42pin



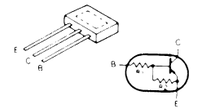
AN78L05



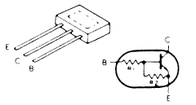
M5F78M12L
M5F79M12L
AN7805



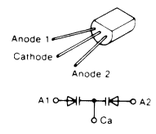
DTA114YSTP
DTA124ESTP



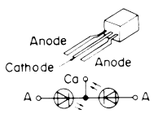
DTC124EST
UN4212TA, UN4215



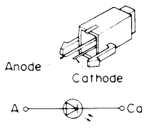
SVC211SPA-AL



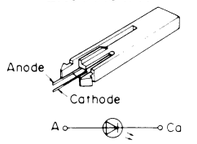
LN173WP38TDA



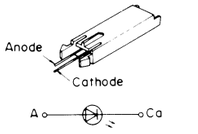
LN018304P



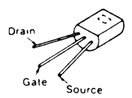
LN014454PH



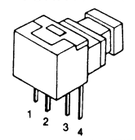
LN013397PH



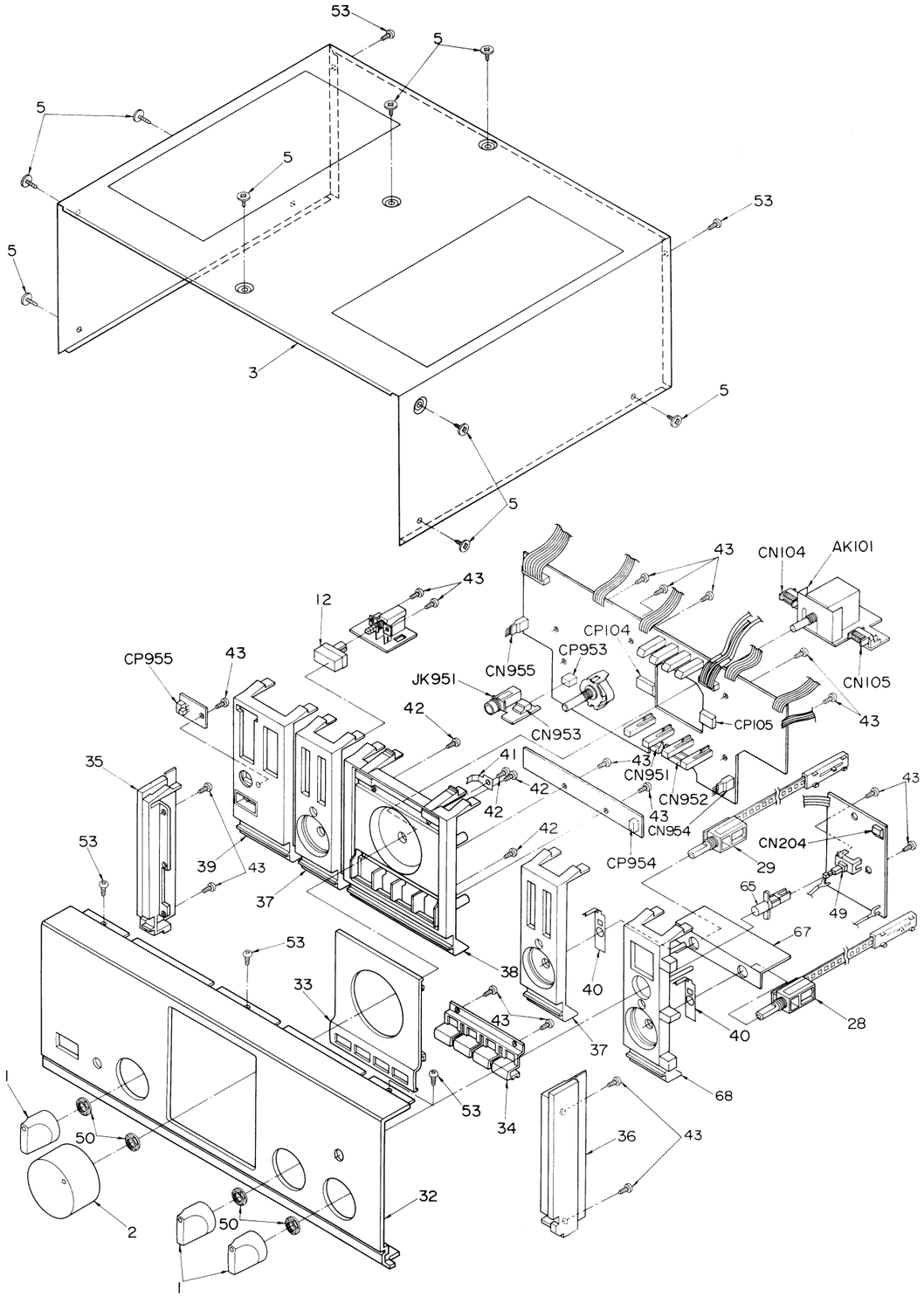
2SK369GR
2SK246YTA

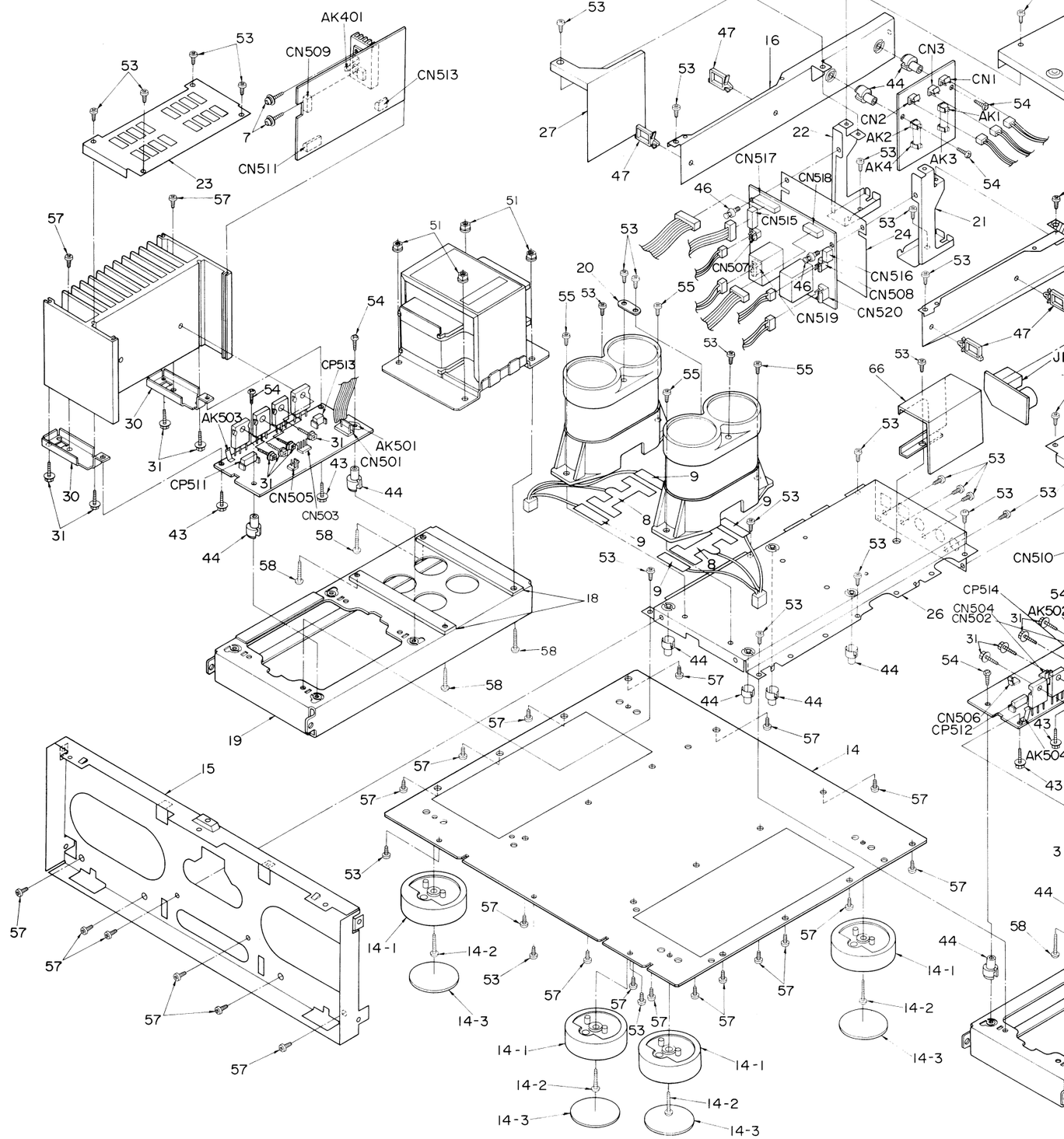


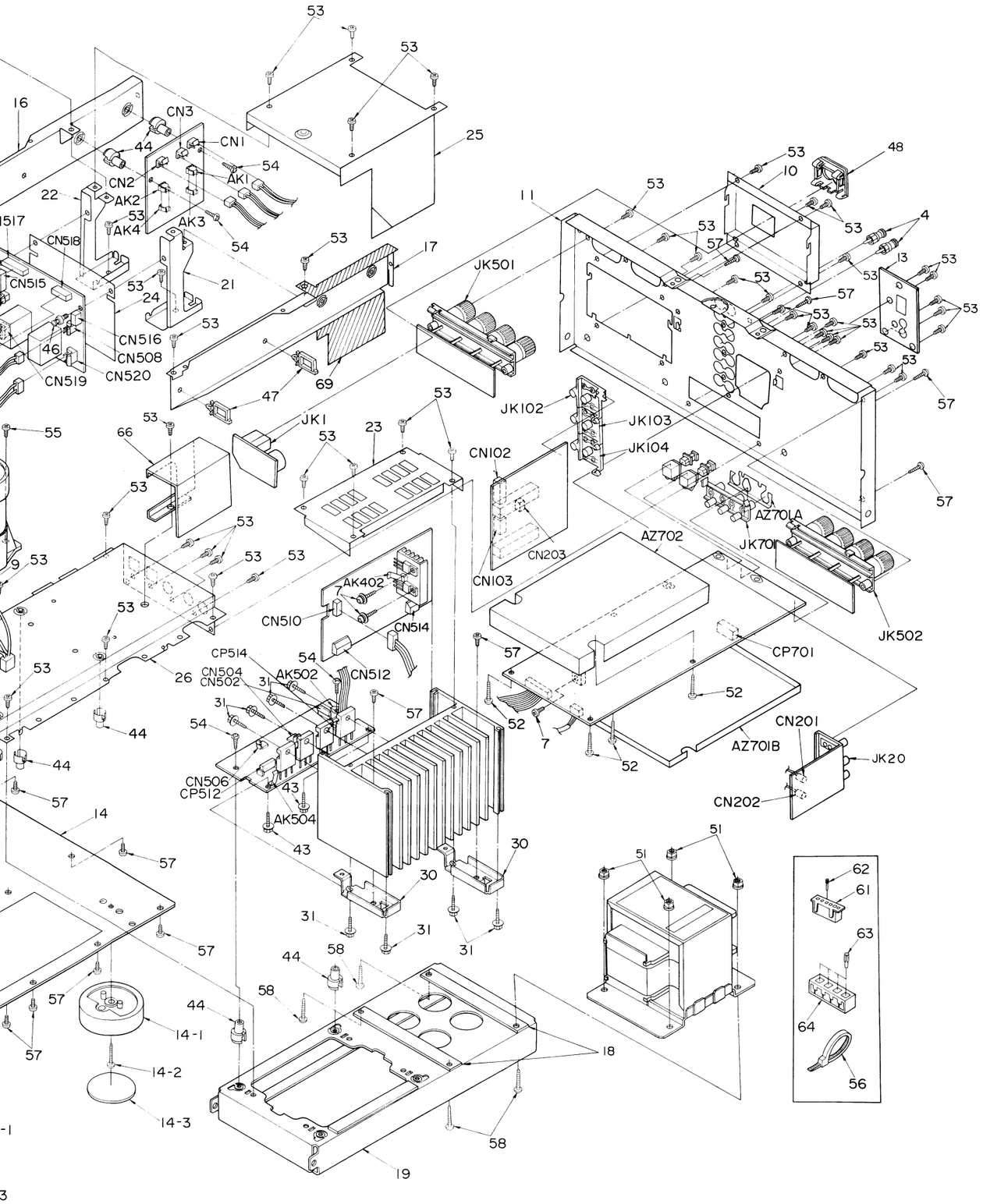
TORX174–A



■ EXPLODED VIEWS




AK401
53
CN509
53
CN513
53
7
CN511
23
57
57
51
51
54
CP513
54
AK503
30
31
AK501
31
43
CN501
30
CP511
31
44
CN505
CN503
31
43
44
58
58
18
58
19
15
57
57
57
57
14
57
57
57
53
14-1
14-2
53
14-3
57
57
57
57
57
57
14-1
14-2
14-3
14-1
14-2
14-3
53
47
16
CN3
53
44
CN1
54
27
CN2
AK1
22
AK2
47
53
AK3
CN517
AK4
54
CN518
46
21
CN515
53
24
53
20
CN507
CN516
55
53
46
CN508
55
CN519
CN520
47
53
55
55
53
66
9
53
53
8
53
9
53
53
53
53
CN510
CP514
54
CN504
AK502
26
CN502
31
31
54
44
44
CN506
43
CP512
AK504
44
58
57
57
57
57
57
57



■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RGW0061-A	KNOB, SELECTOR	
2	RGW0062	KNOB, VOLUME	
3	RFKKUMA10E-A	CABINET ASS'Y	
4	SJPA11-1	SHORT PIN	
5	SNE2129-2	SCREW	
7	XYN3+F8	SCREW	
8	RFKFUV900AK	BOOST BAR ASS'Y 1	
9	RFKFUV900BK	BOOST BAR ASS'Y 2	
10	RGR0069B-A	SUB REAR PANEL	
11	RGR0070C-A	REAR PANEL	(E)
11	RGR0070C-B	REAR PANEL	(EB)
11	RGR0070C-C	REAR PANEL	(EG)
12	RGU0283-1A	BUTTON, POWER	
13	RGR0097	PHONO TERMINAL PLATE	
14	RFKJUV900AK	CHASSIS ASS'Y	
14-1	RKA0035	FOOT	
14-2	XTB4+20FFZ	SCREW	
14-3	SKYD4	FOOT RUBBER	
15	RFKNUMA10E-A	FRONT ANGLE ASS'Y	
16	RMA0250	SIDE ANGLE(L)	
17	RMA0251	SIDE ANGLE(R)	
18	SHG6352-3	RUBBER, TRANSFORMER	
19	RFKJUMA10E-A	TRANS CHASSIS ASS'Y	
20	RMQ0112-1	CAPACITOR ANGLE	
21	RMQ0113	ANGLE(R)	
22	RMQ0114	ANGLE(L)	
23	RMY0036	SUB RADIATOR	
24	RMZ0079	INSULATION SHEET	
25	RSC0077-1	SHIELD CASE	
26	RSC0078-1	DAC CASE	
27	RSC0115	SHIELD PLATE	
28	RSQ0009-1	RELEASE(INPUT)	
29	RSQ0013	RELEASE(REC)	
30	RMQ0111	RADIATOR ANGLE	
31	SNE2117-1	SCREW	
32	RFKGUMA10E-A	FRONT PANEL ASS'Y	
33	RFKNUMA10AA	SUB PANEL ASS'Y	
34	RGU0284	BUTTON, SELECTOR	
35	RGK0207-1A	SIDE ORNAMENT(L)	
36	RGK0208-A	SIDE ORNAMENT(R)	
37	RGK0209	SELECTOR HOLDER	
38	RFKNUMA10BA	VOLUME ORNAMENT	
39	RGK0211-1	POWER SW HOLDER	
40	RMC0065	EARTH SPRING	

Ref. No.	Part No.	Part Name & Description	Remarks
41	SUS800	EARTH SPRING	
42	XTBS3+10JFZ1	SCREW	
43	XTB3+8JFZ	SCREW	
44	SHE187-2	P.C.B. SUPPORT	
46	SHR415	LATCH	
47	SHR9814	LEAD CLAMPER	
48	SJS9231A	AC INLET COVER	
49	SUB181	ATTACH BAR	
50	SNE4021-1	NUT	
51	SNE4065	NUT	
52	XTBS3+20F1	SCREW	
53	XTBS3+8JFZ1	SCREW	
54	XTB3+20J	SCREW	
55	XTB4+10FFZ	SCREW	
56	SHR301	CLAMPER	
57	XTB4+8FFZ	SCREW	
58	XTB4+20FFZ	SCREW	
61	SJS5425	SOCKET(4P)	
61	SJS5715	SOCKET(7P)	
61	SJS5523	SOCKET(5P)	
61	SJS5025	SOCKET(10P)	
61	SJS5331	SOCKET(3P)	
61	SJS5033	SOCKET(12P)	
62	SJT783	CONTACT	
63	SJT785	CONTACT	
64	SJS5431	SOCKET(4P)	
64	SJS5717	SOCKET(7P)	
64	SJS5027	SOCKET(10P)	
64	SJS5337	SOCKET(3P)	
64	SJS5051	SOCKET(12P)	
64	SJS5217	SOCKET(2P)	
65	RGU0282-A	BUTTON, PHONO SELECTOR	
66	RSC0132	PHONO SHIELD CASE	
67	RSC0142	PHONO SHIELD PLATE	
68	RGK0209A	SELECTOR HOLDER	
69	RSC0141	SHIELD CASE(A)	
		PACKING MATERIAL	
P1	RPG0555	PACKING CASE	
P2	RPN0238A-1	PAD(FRONT)	
P3	RPN0238B-1	PAD(BACK)	
P4	SPH223	KRAFT PAPER	
P5	SPH6434	PROTECTION SHEET	
P6	SPB1061	PROTECTION BAG(F.B.)	
		ACCESSORIES	

Ref. No.	Part No.	Part Name & Description	Remarks
A1	RQT0742-B	INSTRUCTION MANUAL	(EB)
A1	RFKSUMA10E-A	INST. MANUAL ASS'Y	(E)
A1	RQT0628-D	INSTRUCTION MANUAL	(EG)
A2	SFDAC05E03	POWER CORD	⚠(E, EG)
A2	SJA193	POWER CORD	⚠(EB)
A3	RQA0013	WARRANTY CARD	
A4	RQCB0169	SERVICENTER LIST	

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC201	UPC4570C	IC, BUFFER AMP	
IC401, 402	M5218P	IC, POWER AMP	
IC501	AN7073	IC, MUTING	
IC701	MC74HCU04N	IC, INVERTER	
IC702	MC74HC126AN	IC, INPUT SELECTOR	
IC703	MC74HC125AN	IC, BUFFER AMP	
IC704, 705	TORX174-A	IC, DIGITAL INPUT(OPTICAL)	
IC707	MC74HC139AN	IC, VCXO SELECT SW.	
IC708	MC74HC393N	IC, DUAL 4 BIT BINARY COUNT	
IC709	MC74HC107N	IC, J-K FLIP FLOP	
IC710	TC74HC21AP	IC, AND GATE	
IC711	MC74HCU04N	IC, INVERTER	
IC712	SN74LS624N	IC, VCO	
IC713	TC5081AP	IC, PLL	
IC715	MC74HC86N	IC, EXCLUSIVE OR GATE	
IC716	MC74HC32AN	IC, OR GATE	
IC717	YM3623B	IC, DIGITAL SIGNAL PROCESSOR	
IC718	TC74HC123AP	IC, FLIP FLOP	
IC719	MC74HC86N	IC, EXCLUSIVE OR GATE	
IC721	M51953BL	IC, RESET	
IC722	TC4066BP	IC, SWITCHING	
IC723	AN7805	IC, REGULATOR	
IC724	M5F78M12L	IC, REGULATOR	
IC725	M5F79M12L	IC, REGULATOR	
IC727	MC74HC107N	IC, J-K FLIP FLOP	
IC801	MN6472	IC, DIGITAL FILTER&D/A CONV.	
IC803-808	M5238P-1	IC, DIFFERENTIAL AMP	
IC951	TC74HC42P	IC, LED DRIVE	
IC952	LC7818	IC, INPUT SELECTOR	
IC953	M51953BL	IC, VOLTAGE COMPARATOR	
IC954	AN78L05	IC, REGULATOR	
		TRANSISTOR(S)	
Q101, 102	2SK389BG	TRANSISTOR	
Q103-106	2SD1512R	TRANSISTOR	
Q107-110	2SA1309A-R	TRANSISTOR	
Q111, 112	2SC1845EFTA	TRANSISTOR	
Q113, 114	2SB1036R	TRANSISTOR	
Q115, 116	2SA1309A-R	TRANSISTOR	
Q117-120	2SC2631RSTTA	TRANSISTOR	
Q121-124	2SA1123RSTTA	TRANSISTOR	
Q201-204	2SK369GR	TRANSISTOR	
Q251	2SC3944AQRS	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q252	2SA1535AQRS	TRANSISTOR	
Q253, 254	2SK246YTA	TRANSISTOR	
Q255	2SA1015Y	TRANSISTOR	
Q401, 402	2SA1123RSTTA	TRANSISTOR	
Q403-406	2SC2631RSTTA	TRANSISTOR	
Q407-410	2SA1123RSTTA	TRANSISTOR	
Q411-414	2SC2631RSTTA	TRANSISTOR	
Q415, 416	2SA1123RSTTA	TRANSISTOR	
Q417, 418	2SC1815BG	TRANSISTOR	
Q419, 420	2SC3311A-Q	TRANSISTOR	
Q421, 422	2SA1309A-R	TRANSISTOR	
Q423, 424	2SC2631RSTTA	TRANSISTOR	
Q425, 426	2SA1123RSTTA	TRANSISTOR	
Q427, 428	2SC3944AQRS	TRANSISTOR	
Q429, 430	2SA1535AQRS	TRANSISTOR	
Q501, 502	2SC1815BG	TRANSISTOR	
Q503, 504	2SC3944AQRS	TRANSISTOR	
Q505, 506	2SA1535AQRS	TRANSISTOR	
Q507, 508	2SC3182R	TRANSISTOR	
Q509, 510	2SA1265R	TRANSISTOR	
Q511, 512	2SB1036R	TRANSISTOR	
Q513	2SA992EFPTA	TRANSISTOR	
Q515, 516	2SC3182R	TRANSISTOR	
Q517, 518	2SA1265R	TRANSISTOR	
Q601, 602	2SK389BG	TRANSISTOR	
Q603-606	2SD1512R	TRANSISTOR	
Q607-610	2SA1309A-R	TRANSISTOR	
Q611, 612	2SC1845EFTA	TRANSISTOR	
Q613, 614	2SB1036R	TRANSISTOR	
Q615, 616	2SA1123RSTTA	TRANSISTOR	
Q617-620	2SC2631RSTTA	TRANSISTOR	
Q621, 622	2SA1123RSTTA	TRANSISTOR	
Q701, 702	2SC3311A-Q	TRANSISTOR	
Q704	UN4215	TRANSISTOR	
Q752	2SD1450RTA	TRANSISTOR	
Q761	DTA124ESTP	TRANSISTOR	
Q763	UN4212TA	TRANSISTOR	
Q803, 804	2SD1450RTA	TRANSISTOR	
Q805	DTC124EST	TRANSISTOR	
Q806, 807	DTA124ESTP	TRANSISTOR	
Q812	DTA124ESTP	TRANSISTOR	
Q951	2SC1845EFTA	TRANSISTOR	
Q952	DTA124ESTP	TRANSISTOR	
Q953	DTA114YSTP	TRANSISTOR	
Q954	2SC3311A-Q	TRANSISTOR	
Q955	DTA124ESTP	TRANSISTOR	
Q956	2SC3311A-Q	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
		DIODE(S)	
D101-106	MA165	DIODE	
D107-110	MA29WA	DIODE	
D111, 112	MA4082MTA	DIODE	
D113, 114	MA29WA	DIODE	
D152	MA165	DIODE	
D201, 202	MA165	DIODE	
D251	MA4180-M	DIODE	
D401-404	MA165	DIODE	
D405-408	MA29WA	DIODE	
D409-412	MA4082MTA	DIODE	
D413-416	MA165	DIODE	
D501, 502	MA167	DIODE	
D503	MA4160M	DIODE	
D504	MA167	DIODE	
D505	MA165	DIODE	
D507, 508	MA165	DIODE	
D511-518	P300DLF	DIODE	⚠
D519-524	1SR35200TB	DIODE	⚠
D601-606	MA165	DIODE	
D609-612	MA29WA	DIODE	
D702-704	SVC211SPA-AL	DIODE	
D705-707	MA858TA	DIODE	
D801-805	MA165	DIODE	
D809, 810	MA4051MTA	DIODE	
D851	MA4051MTA	DIODE	
D951	LN173WP38TDA	DIODE	
D952-955	LN013397PH	DIODE	
D956-959	LN014454PH	DIODE	
D960	MA29WA	DIODE	
D961, 962	MA165	DIODE	
D963	LN018304P	DIODE	
D964-970	MA165	DIODE	
		VARIABLE RESISTOR(S)	
VR101	EWCL7A225479	V. R, VOLUME	
VR401, 402	EVNM0AA00B52	V. R, ICQ(V-AMP) ADJ.	
VR403, 404	EVNM0AA00B52	V. R, ICQ(I-AMP) ADJ.	
VR601, 602	EVNDXAA00B23	V. R, AMP GAIN ADJ.	
		THERMISTOR(S)	
TH401, 402	ERTD2WHL104S	THERMISTOR	
TH501, 502	ERTD2WHL104S	THERMISTOR	
		COMPONENT COMBINATION(S)	
Z701-710	EXCEMT103DTB	COMPONENT COMBINATION	

Ref. No.	Part No.	Part Name & Description	Remarks
		COIL(S)	
L1	SLQZ650MH49	COIL	⚠
L201-204	RLQX101K-V	COIL	
L501, 502	SLQY07G-40	COIL	
L503, 504	SLQY18G-10	COIL	
L701	ELEPK470KA	COIL	
L702	RL09B003-M	COIL	
L703	RL09B002-M	COIL	
L704	RL09B004-M	COIL	
L705	ELEPK470KA	COIL	
L706	ELEPK4R7KA	COIL	
L709-711	ELEPK470KA	COIL	
L713, 714	ELEPK470KA	COIL	
L715	ELEPK4R7KA	COIL	
L751-755	ELEPK470KA	COIL	
L757, 758	ELEPK470KA	COIL	
L760	ELEPK470KA	COIL	
L761	ELEPKR22MA	COIL	
		TRANSFORMER(S)	
T1, 2	RFKCUMA10E	POWER TRANSFORMER ASS'Y	⚠(E)
T1, 2	RFKCUMA10E-A	POWER TRANSFORMER ASS'Y	⚠(EG)
T1, 2	RFKCUMA10EBA	POWER TRANSFORMER ASS'Y	⚠(EB)
T701, 702	SLQB20G-1P	TRANSFORMER	
T703	SLZS10VN17-1	TRANSFORMER	
		OSCILLATOR(S)	
X701	SVQAT1693A	OSCILLATOR	
X702	RSXA16M9S01	OSCILLATOR	
X703	RSXA18M4S01	OSCILLATOR	
X704	RSXA12M2S01	OSCILLATOR	
		FUSE(S)	
F1, 2	XBA2C20TB0	FUSE	⚠
		SWITCH(ES)	
S1	ESB8279V	SW, POWER	⚠
S101, 102	RSS6D001	SW, INPUT SELECTOR	
S201	ESB68126	SW, PHONO	
S951	RSR4B002	SW, SPEAKERS	
S952	EVQ21405R	SW, DIGITAL INPUT 1	
S953	EVQ21405R	SW, DIGITAL INPUT 2	
S954	EVQ21405R	SW, DIGITAL INPUT 3	
S955	EVQ21405R	SW, DAT MONITOR	
		EARTH MATERIAL(S)	

Ref. No.	Part No.	Part Name & Description	Remarks
AK1-4	EYF52BC	FUSE HOLDER	
AK101	RSC0010	SHIELD PLATE	
AK401, 402	SUS227	EARTH SPRING	
AK501, 502	SNE1004-1	GND PLATE	
AK503, 504	SUS227	EARTH SPRING	
		SHIELD PLATE(S)	
AZ701A	RSC0104-1	SHIELD PLATE	
AZ701B	RSC0116	SHIELD PLATE	
AZ702	RSC0103	SHIELD PLATE	
		CONNECTOR(S) & SOCKET(S)	
CN1-3	RJP1A4204-1	CONNECTOR(3P)	
CN102	SJT3709	CONNECTOR(7P)	
CN103	SJT3415	CONNECTOR(4P)	
CN104	RJU003K008M1	SOCKET(8P)	
CN105	RJU003K006M1	SOCKET(6P)	
CN201, 202	SJF3105N	TERMINAL BOARD	
CN203	SJT3319	CONNECTOR(3P)	
CN204	SJT3321	CONNECTOR(3P)	
CN501, 502	RJP1A3505	CONNECTOR(5P)	
CN503, 504	RJP1A3303	CONNECTOR(3P)	
CN505-508	RJP1A3202	CONNECTOR(2P)	
CN509, 510	SJT3511	CONNECTOR(5P)	
CN511, 512	SJT30745JQ	CONNECTOR(7P)	
CN513, 514	SJT30445JQ	CONNECTOR(4P)	
CN515	SJT3709	CONNECTOR(7P)	
CN516	SJT3415	CONNECTOR(4P)	
CN517	SJT3005	CONNECTOR(10P)	
CN518	SJT3511	CONNECTOR(5P)	
CN519, 520	RJP1A4103	CONNECTOR(3P)	
CN951	SJT3321	CONNECTOR(3P)	
CN952	SJT3017	CONNECTOR(12P)	
CN953	SJT30345JQ	CONNECTOR(3P)	
CN954	SJT30548BB	CONNECTOR(5P)	
CN955	SJT30549BB	CONNECTOR(5P)	
CP104	RJT003K008M1	CONNECTOR(8P)	
CP105	RJT003K006M1	CONNECTOR(6P)	
CP511, 512	SJS50778JQ	SOCKET(7P)	
CP513, 514	SJS50478JQ	SOCKET(4P)	
CP701	SJS50581BB	SOCKET(5P)	
CP953	SJS50378JQ	SOCKET(3P)	
CP954, 955	SJS50581BB	SOCKET(5P)	
		RELAY(S)	
RL102	RSYG5A237P12	RELAY	
RL501, 502	RSY0004-1	RELAY	
RL503	RSYG5A237P12	RELAY	
RL801, 802	RSYG5A237P12	RELAY	

Ref. No.	Part No.	Part Name & Description	Remarks
RL951, 952	RSYG5A237P12	RELAY	
		JACK(S)	
JK1	SJS9231-1B	JACK, AC INLET	⚠
JK102	SJF3069-4N	JACK, TUNER/AUX	
JK103	SJF3069N	JACK, DAT	
JK104	SJF3069N	JACK, TAPE	
JK201	SJF3067-1N	JACK, PHONO	
JK501	RJH4403	JACK, SPEAKER	
JK502	RJH4403	JACK, SPEAKER	
JK701	SJF3061-16A	JACK, DAT(COAXIIAL)	
JK951	SJJD19	JACK, HEADPHONE	

■ RESISTORS & CAPACITORS

Notes : * Capacity valuse are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k (OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R101, 102	ERDAS3G273T	1/4W 27K
R103, 104	ERDAS3G392T	1/4W 3.9K
R105, 106	ERDAS3G102T	1/4W 1K
R107, 108	ERDAS3G224	1/4W 220K
R109, 110	ERDS2TJ823T	1/4W 82K
R113, 114	ERDS2TJ151	1/4W 150
R115-118	ERDS2TJ331	1/4W 330
R119, 120	ERDS2TJ101	1/4W 100
R121, 122	ERDS2TJ152	1/4W 1.5K
R123, 124	ERDS2TJ124T	1/4W 120K
R125-128	ERDFS2VJ121T	1/4W 120
R129, 130	ERDS2TJ330	1/4W 33
R131-134	ERDFS2VJ150T	1/4W 15
R135, 136	ERDS2TJ563	1/4W 56K
R151-154	ERDFS2VJ121T	1/4W 120
R205, 206	ERDS2TJ473	1/4W 47K
R207, 208	ERDS2TJ221	1/4W 220
R209, 210	ERDS2TJ220T	1/4W 22
R211-216	ERDAS3G272T	1/4W 2.7K
R217, 218	ERDAS3G121	1/4W 120
R219, 220	ERDS2TJ120T	1/4W 12
R221, 222	ERDS2TJ101	1/4W 100
R223, 224	ERDAS3G121	1/4W 120
R225, 226	EROS2TKF5231	1/4W 5.23K
R227, 228	EROS2TKG6802	1/4W 68K
R229, 230	ERDS2TJ334	1/4W 330K
R231, 232	ERDAS3G561	1/4W 560
R251, 252	ERDS2TJ101	1/4W 100
R253	ERDS2TJ123	1/4W 12K
R254	ERDS2TJ153	1/4W 15K
R255	ERDS2TJ392T	1/4W 3.9K
R257, 258	ERG1SJ821E	1W 820
R259, 260	ERDS2TJ122	1/4W 1.2K
R261-272	ERDAS3G471T	1/4W 470
R273	ERDS2TJ102	1/4W 1K
R273	ERDS2TJ222	1/4W 2.2K
R274	ERDS2TJ102	1/4W 1K
R274	ERDS2TJ222	1/4W 2.2K
R275	ERDS2TJ102	1/4W 1K
R275	ERDS2TJ222	1/4W 2.2K
R276	ERDS2TJ102	1/4W 1K
R401, 402	ERDAS3G121	1/4W 120
R403, 404	ERDS2TJ224T	1/4W 220K
R405-408	ERDAS3G103T	1/4W 10K
R409-412	ERDAS3G102T	1/4W 1K
R413-416	ERDFS2VJ101T	1/4W 100

Ref. No.	Part No.	Values & Remarks
R417-420	ERDS2TJ222	1/4W 2.2K
R421-424	ERDFS2VJ561T	1/4W 560
R425, 426	ERDS2TJ104	1/4W 100K
R427-432	ERDFS2VJ222T	1/4W 2.2K
R433, 434	ERDFS2VJ332T	1/4W 3.2K
R435, 436	ERDS2TJ393	1/4W 39K
R437, 438	ERDFS2VJ102T	1/4W 1K
R439-442	ERDS2TJ223	1/4W 22K
R443-446	ERDFS2VJ101T	1/4W 100
R447, 448	ERDFS2VJ561T	1/4W 560
R449-452	ERDFS2VJ2R2T	1/4W 2.2
R453, 454	ERDFS2VJ681T	1/4W 680
R455-458	ERDFS2VJ121T	1/4W 120
R459-462	ERDFS2VJ332T	1/4W 3.3K
R463, 464	ERDFS2VJ101T	1/4W 100
R465, 466	ERDFS2VJ102T	1/4W 1K
R467, 468	ERDFS2VJ681T	1/4W 680
R469, 470	ERDFS2VJ1R0T	1/4W 1
R471-474	ERDS1FVJ100T	1/2W 10 ⚠
R501, 502	ERDFS2VJ332T	1/4W 3.3K
R503, 504	ERDS2TJ103	1/4W 10K
R505-508	ERDFS2VJ6R8T	1/4W 6.8
R509-512	ERDFS2VJ681T	1/4W 680
R513, 514	ERDFS2VJ331T	1/4W 330
R515-518	ERDFS2VJ2R2T	1/4W 2.2
R519, 520	ERDS1FVJ100T	1/2W 10 ⚠
R521-524	RRECMKR22SC	5W 0.22
R525-528	ERDS1FVJ100T	1/2W 10 ⚠
R529, 530	ERDFS2VJ271T	1/4W 270
R531, 532	ERDS2TJ153	1/4W 15K
R533, 534	ERDFS2VJ472T	1/4W 4.7K
R535	ERDS2TJ473	1/4W 47K
R536	ERDS2TJ563	1/4W 56K
R537	ERDS2TJ153	1/4W 15K
R538	ERDS2TJ103	1/4W 10K
R539	ERDS2TJ563	1/4W 56K
R540	ERDS1FVJ682T	1/2W 6.8K ⚠
R541	ERDS2TJ153	1/4W 15K
R543	ERDS2TJ223	1/4W 22K
R544, 545	ERG2SJ681H	2W 680
R546	ERDS1FVJ821T	1/2W 820 ⚠
R547-550	RREEMKR22VC	2W 0.22
R551, 552	ERG2SJ331H	2W 330
R553	ERDS2TJ223	1/4W 22K
R555-558	RRECMKR22SC	5W 0.22
R561-564	ERDS1FVJ6R8T	1/2W 6.8 ⚠
R565-568	ERDFS2VJ2R2T	1/4W 2.2
R569-572	RREEMKR22VC	2W 0.22
R605, 606	ERDAS3G182	1/4W 1.8K

Ref. No.	Part No.	Values & Remarks
R607, 608	ERDAS3G222T	1/4W 2.2K
R609, 610	ERDAS3G124T	1/4W 120K
R611, 612	ERDS2TJ223	1/4W 22K
R613, 614	ERDS2TJ101	1/4W 100
R615-618	ERDS2TJ221	1/4W 220
R619, 620	ERDS2TJ220T	1/4W 22
R621, 622	ERDS2TJ152	1/4W 1.5K
R625-628	ERDFS2VJ121T	1/4W 120
R629, 630	ERDS2TJ330	1/4W 33
R631-634	ERDFS2VJ150T	1/4W 15
R635, 636	ERDS2TJ124T	1/4W 120K
R637, 638	ERDS2TJ101T	1/4W 100
R701-703	ERDS2TJ750	1/4W 75
R704	ERDS2TJ393	1/4W 39K
R705	ERDS2TJ102	1/4W 1K
R706	ERDS2TJ393	1/4W 39K
R707	ERDS2TJ102	1/4W 1K
R708	ERDS2TJ101	1/4W 100
R709	ERDS2TJ102	1/4W 1K
R710	ERDS2TJ101	1/4W 100
R711	ERDS2TJ102	1/4W 1K
R715	ERDS2TJ151	1/4W 150
R716	ERDS2TJ102	1/4W 1K
R717	ERDS2TJ104	1/4W 100K
R718	ERDS2TJ824	1/4W 820K
R719	ERDS2TJ105T	1/4W 1M
R720	ERDS2TJ223	1/4W 22K
R721	ERDS2TJ473	1/4W 47K
R722	ERDS2TJ223	1/4W 22K
R723	ERDS2TJ105T	1/4W 1M
R725	ERDS2TJ223	1/4W 22K
R726	ERDS2TJ473	1/4W 47K
R727	ERDS2TJ223	1/4W 22K
R728	ERDS2TJ105T	1/4W 1M
R731	ERDS2TJ223	1/4W 22K
R732	ERDS2TJ473	1/4W 47K
R733	ERDS2TJ223	1/4W 22K
R735	ERDS2TJ222	1/4W 2.2K
R736	ERDS2TJ102	1/4W 1K
R737	ERDS2TJ472	1/4W 4.7K
R738	ERDS2TJ103	1/4W 10K
R741, 742	ERDS2TJ331	1/4W 330
R743, 744	ERDS2TJ104	1/4W 100K
R748	ERDS2TJ472	1/4W 4.7K
R750	ERDFS2VJ271T	1/4W 270
R752-754	ERDS2TJ102	1/4W 1K
R756, 757	ERDS2TJ103	1/4W 10K
R760	ERDS2TJ224T	1/4W 220K
R761	ERDS2TJ154	1/4W 150K

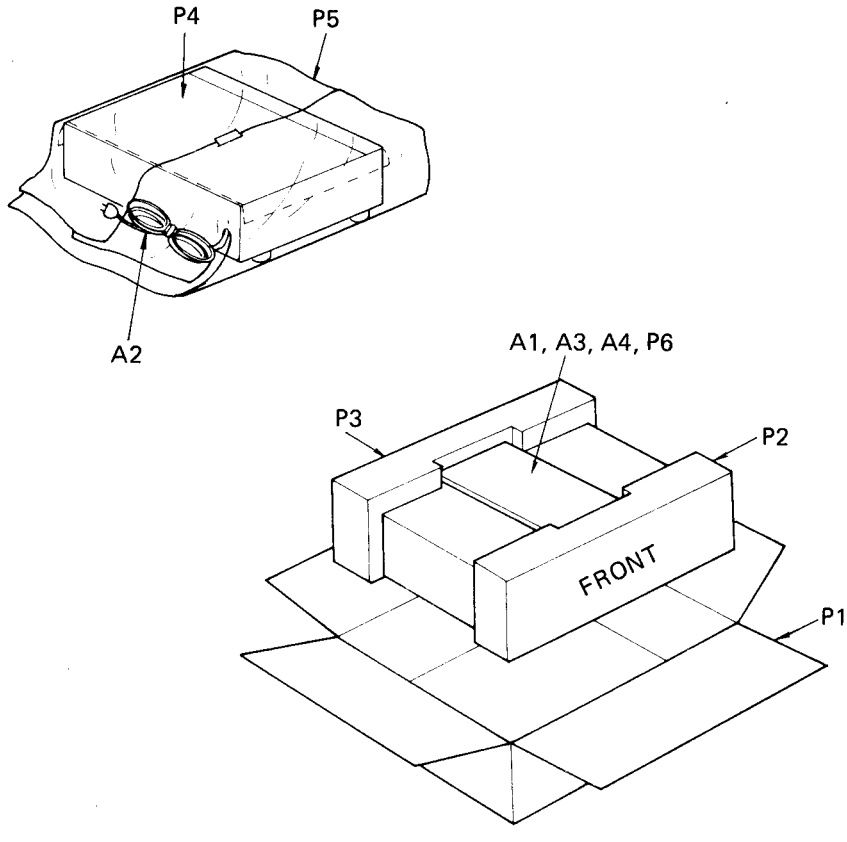
Ref. No.	Part No.	Values & Remarks
R766	ERDS2TJ221	1/4W 220
R767-769	ERDS2TJ223	1/4W 22K
R770	ERDS2TJ103	1/4W 10K
R771	ERDS2TJ561	1/4W 560
R772-774	ERDS2TJ221	1/4W 220
R775	ERG2ANJP150S	2W 15 ⚠
R780	ERDS2TJ331	1/4W 330
R781	ERDS2TJ333	1/4W 33K
R801, 802	ERDS2TJ102	1/4W 1K
R805-808	ERDAS3G333	1/4W 33K
R809-812	ERDAS3G223T	1/4W 22K
R813-816	ERDAS3G153T	1/4W 15K
R817-820	ERDAS3G332T	1/4W 3.3K
R821-824	ERDAS3G183T	1/4W 18K
R825, 826	ERDAS3G822T	1/4W 8.2K
R827, 828	ERDAS3G182	1/4W 1.8K
R829, 830	ERDAS3J105T	1/4W 1M
R831, 832	ERDAS3G103T	1/4W 10K
R833, 834	ERDAS3G153T	1/4W 15K
R835, 836	ERDAS3G183T	1/4W 18K
R837, 838	ERDAS3G100T	1/4W 10
R839, 840	ERDAS3G330T	1/4W 33
R841, 842	ERDAS3G102T	1/4W 1K
R843, 844	ERDAS3G332T	1/4W 3.3K
R845, 846	ERDAS3G561	1/4W 560
R851, 852	ERDAS3G224	1/4W 220K
R867, 868	ERDS2TJ562	1/4W 5.6K
R881-884	ERDAS3G333	1/4W 33K
R885-888	ERDAS3G223T	1/4W 22K
R889-896	ERDAS3G473	1/4W 47K
R951-953	ERDS2TJ151	1/4W 150
R954	ERDS2TJ221	1/4W 220
R955-958	ERDS2TJ151	1/4W 150
R959	ERDS1FVJ331T	1/2W 330 ⚠
R961-963	ERDS2TJ123	1/4W 12K
R965-968	ERDS2TJ123	1/4W 12K
R969-971	ERDS2TJ224T	1/4W 220K
R975, 976	ERDS2TJ102	1/4W 1K
R977	ERDS2TJ224T	1/4W 220K
R981	ERDS2TJ223	1/4W 22K
R982	ERDS1FVJ391T	1/2W 390 ⚠
R984	ERDS2TJ102	1/4W 1K
R985	ERDS1FJ390	1/2W 39 ⚠
R990	ERDS2TJ223	1/4W 22K
R991	ERDS2TJ472	1/4W 4.7K
R992	ERG2ANJP150S	2W 15 ⚠
R993	ERDS1FVJ181T	1/2W 180 ⚠
R994	ERDS2TJ563	1/4W 56K
R1001, 1002	ERDS2TJ563	1/4W 56K
R1004-1006	ERDS2TJ223	1/4W 22K
		CAPACITORS

Ref. No.	Part No.	Values & Remarks
C1	ECKWKC103PF2	400V 0.01U ⚠
C101, 102	ECBT1H121KB5	50V 120P
C103, 104	ECA0JPXS221B	6.3V 220U
C105, 106	ECCR1H040C5	50V 4P
C107, 108	ECBT1H101KB5	50V 100P
C109-112	ECCR2H330K5	500V 33P
C119-122	ECKT1H223ZF	50V 0.022U
C123	ECEA1HK010B	50V 1U
C124	ECQV1H104JZ3	50V 0.1U
C125	ECKR2H103ZU	500V 0.01U
C127, 128	ECA1EPXS100B	25V 10U
C151-154	ECA2APXS010B	100V 1U
C156	ECKR2H103ZU	500V 0.01U
C157	ECEA1EK100	25V 10U
C158	ECQV1H333JZ3	50V 0.033U
C203, 204	ECBT1H102KB5	50V 1000P
C207, 208	ECA0JPXS332E	6.3V 3300U
C209, 210	ECQM1H222KV3	50V 2200P
C211, 212	ECQM1H392JZ	50V 3900P
C213, 214	ECQM1H103JZ	50V 0.01U
C215, 216	ECQM1H473JZ	50V 0.047U
C217, 218	ECA1HPXS010B	50V 1U
C219, 220	ECQM1H472JZ	50V 4700P
C221, 222	ECA1HPXS4R7B	50V 4.7U
C223, 224	ECBT1H270JU5	50V 27P
C225, 226	ECBT1H102KB5	50V 1000P
C251-254	ECA1EPXS100B	25V 10U
C257, 258	ECA2APXS010B	100V 1U
C261-272	ECBT1H181KB5	50V 180P
C273, 274	ECBT1H220JC5	50V 22P
C275, 276	ECBT1H121KB5	50V 120P
C277, 278	ECBT1H101KB5	50V 100P
C401, 402	ECBT1H221KB5	50V 220P
C403-406	ECEA1EBZ220B	25V 22U
C407-414	ECA1EPXS100B	25V 10U
C415, 416	ECBT1H221KB5	50V 220P
C417, 418	ECKR1H103ZF5	50V 0.01U
C419-422	ECEA1HK010B	50V 1U
C423, 424	ECQM1H822JZ	50V 8200P
C425-428	ECA2APXS010B	100V 1U
C429-432	ECA0JPXS101B	6V 100U
C433, 434	ECBT1H331KB5	50V 330P
C435, 436	ECCD1H150KC	50V 15P
C501-504	ECBA1H681KB5	50V 680P
C505, 506	ECKR1H103ZF5	50V 0.01U
C507-510	ECQM1H683KV3	50V 0.068U
C511	ECEA0JU331B	6.3V 330U
C512	ECFR1E223KR	25V 0.022U
C513	ECEA0JK470	6.3V 47U
C514, 515	ECEA1EK4R7	25V 4.7U
C517-520	ECQM1H683KV3	50V 0.068U

Ref. No.	Part No.	Values & Remarks
C521-524	ECA2APXS101E	100V 100U
C525, 526	ECA1EPXS102E	25V 1000U
C527, 528	ECQE2104KS	125V 0.1U ⚠
C529, 530	ECKR1H103ZF5	50V 0.01U
C531	ECEA1EPZ222W	25V 2200U
C537, 538	ECEA1HK010B	50V 1U
C539-542	ECHR1H103JZ3	50V 0.01U
C543-550	ECQV1H823JZ3	50V 0.082U
C551-554	ECKR1H102KB5	50V 1000P
C551A, 552A	ECED71M123T	71V 12000U
C605, 606	ECCR1H330K5	50V 33P
C607, 608	ECQM1H682JZ	50V 6800P
C609-612	ECCR2H221K5	500V 220P
C613, 614	ECEA1CBZ221E	16V 220U
C701, 702	ECBT1E103ZF	25V 0.01U
C703	ECBT1H104ZF5	50V 0.1U
C704	ECEA0JPU101	6.3V 100U
C705	ECBT1H104ZF5	50V 0.1U
C709	ECEA0JPU101	6.3V 100U
C710	ECBT1H104ZF5	50V 0.1U
C713	ECFR1E103KR	25V 0.01U
C714, 715	ECBT1HR7KC5	50V 4.7P
C716	ECBT1H104ZF5	50V 0.1U
C717	ECEA0JPU101	6.3V 100U
C718	ECEA1HN010	50V 1U
C719	ECBT1E103ZF	25V 0.01U
C720	ECBT1H680J5	50V 68P
C721	ECBT1H220JC5	50V 22P
C722	ECBT1E103ZF	25V 0.01U
C723	ECBT1H680J5	50V 68P
C724	ECBT1H220JC5	50V 22P
C725	ECBT1E103ZF	25V 0.01U
C726	ECBT1H680J5	50V 68P
C727	ECBT1H220JC5	50V 22P
C728	ECQV1H105JZ3	50V 1U
C729	ECEA0JPU101	6.3V 100U
C730	ECBT1H330J5	50V 33P
C731	ECBT1H104ZF5	50V 0.1U
C732	ECBT1E103ZF	25V 0.01U
C733	ECBT1H104ZF5	50V 0.1U
C734, 735	ECBT1E103ZF	25V 0.01U
C736	ECBT1H470J5	50V 47P
C737	ECBT1H102KB5	50V 1000P
C739	ECBT1H220JC5	50V 22P
C740	ECEA0JPU331B	6.3V 330U
C741	ECEA1HK010B	50V 1U
C742	ECEA0JPU221B	6.3V 220U
C743	ECBT1H104ZF5	50V 0.1U
C744	ECEA0JPU221B	6.3V 220U
C745	ECEA1CPZ222E	16V 2200U
C747, 748	ECA1EPXS102E	25V 1000U
C751, 752	ECA1CPXS101B	16V 100U

Ref. No.	Part No.	Values & Remarks
C756	ECBT1E103ZF	25V 0.01U
C757	ECBT1C472KR5	16V 4700P
C758-762	ECBT1H104ZF5	50V 0.1U
C763	ECEA1CN100SB	16V 10U
C764, 765	ECBT1E103ZF	25V 0.01U
C771-773	ECBT1H104ZF5	50V 0.1U
C777-783	ECBT1H104ZF5	50V 0.1U
C785, 786	ECBT1H104ZF5	50V 0.1U
C788, 789	ECBT1H104ZF5	50V 0.1U
C792, 793	ECBT1H104ZF5	50V 0.1U
C794	ECBT1H121KB5	50V 120P
C795	ECCR1H121JC5	50V 120P
C796	ECBT1H270J5	50V 27P
C803, 804	ECBT1H104ZF5	50V 0.1U
C805, 806	ECA0JPXS221B	6.3V 220U
C807-810	ECA1CPXS470B	16V 47U
C811, 812	ECHR1H151JZ3	50V 150P
C813, 814	ECCR1H150KC5	50V 15P
C815, 816	ECHR1H101JZ3	50V 100P
C821, 822	ECEA1CBZ330B	16V 33U
C825, 826	ECHR1H822JZ3	50V 8200P
C827, 828	ECHR1H331JZ3	50V 330P
C829, 830	ECHR1H102JZ3	50V 1000P
C831, 832	ECHR1H121JZ3	50V 100P
C833, 834	ECEA1CBZ221E	16V 220U
C835, 836	ECQM1H472JZ	50V 4700P
C851, 852	ECHR1H151JZ3	50V 150P
C853, 854	ECCR1H150KC5	50V 15P
C951	ECEA0JU101B	6.3V 100U
C952	ECEA1EK100	25V 10U
C954	ECEA1CK100B	16V 10U
C955	ECEA0JU102	6.3V 1000U
C956	ECQV1H473JZ3	50V 0.047U
C957	ECEA1EK3R3B	25V 3.3U
C959	ECEA1CU101	16V 100U
C960, 961	ECBT1H104ZF5	50V 0.1U
C963, 964	ECKT1H102KB	50V 1000P
C1001-1006	ECEA0JU101B	6.3V 100U
C1008	ECEA0JU101B	6.3V 100U
C1011-1013	ECEA0JU101B	6.3V 100U
C1014	ECA0JPXS221B	6.3V 220U
C1015-1018	ECBT1H102KB5	50V 1000P
C1019-1024	ECBT1H104ZF5	50V 0.1U

■ PACKING



Printed in Japan
K900708200YY/TN